PAGE 6 PUBLISHING's

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Issue 54 £1.95
February/March

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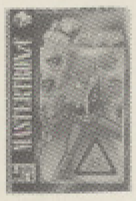
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INVASION

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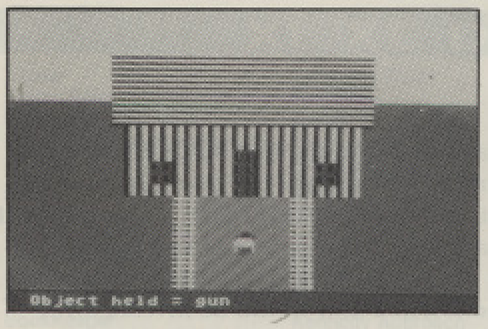
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'The magazine for the Dedicated Atari User'

CONTENTS

Issue 54 - February/March 1992



INDIAN GOLD

Another fine game from Bill Halsall - can you solve it?

ST FILE

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SUBMISSIONS

PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it! Appropriate payment will be made for all published programs and articles, all payments being made at the end of the second month shown on the cover of the issue concerned.

The next issue of NEW ATARI USER will be on sale 26th March
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PAGE 6 PUBLISHING's NEW

ATARI USER

Issue 54
February/March 1992

'The Magazine for the Dedicated Atari User'

ISSN No. 0958-7705

THE CREDITS

All of the usual stuff is on page 3 but here are the people who made this issue possible.

Les Ellingham struggled around Christmas time to complete this issue while everyone else seemed to have a couple of weeks off. It really is hard to get back into the swing of things after the Christmas blow-out, ain't it?

Sandy is still doing her stuff

Paulette was invited out by one of our customers around Christmas and could be available again if the right offer comes up. Mind you she's a bit fussy so you will have to come up with something like a week in Barbados or a Royal Garden Party. Applications (with full itinerary) to the usual address

The Regular Contributors, who provide the backbone of the magazine and can generally be relied upon to come up with good articles and reviews, are ....

John S Davison	**John Davison jr**
John Sweeney	**Paul Rixon**
Damon Howarth	**Ian Finlayson**
Dion Guy	**The Tipster**

All other contributors for this issue are individually credited alongside their articles or programs. Thanks to everybody for sharing their enthusiasm with other Atari users.

Last issue's cover was a photo of **DICE!**, simply because it was the most colourful of the programs in that issue. This time it should be a screen shot of **INDIAN GOLD** by Bill Halsall, if everything goes according to plan that is

Lots and lots of new CD's this time but many re-issues. Greatest surprise was a new Incredible String Band CD of stuff recorded for the BBC and not previously released, not their best but still the ISB and by the time this hits the shops their early Electra albums should be out. Oh joy! Another surprise was two more early albums from Pierce Turner showing how unique the man is, well worth the listen. Still on the nostalgia trail how about a couple from Tir Na Nog? Great at the time and, surprisingly, still good. I can remember all the words after almost 15 years! The rest will have to be just listed otherwise there won't be enough room, they include U2, Enya, Shirley Collins classic No Roses, Van Morrison live, Tom Petty's Into the Great Wide Open (a little late, I know), Maura O'Connell, Robert Earl Keen Jr with No Kinda Dancer, Rick Wakeman's King Arthur, still stirring after all these years plus others by Rick and Van. All these and more made this issue possible. Without the music there might not be the inspiration to continue. Ask Jeff Minter how he's still around!

The next issue of NEW ATARI USER could feature YOUR article or program, so SEND IT IN NOW!

PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! With the exception of the final output on a Linotron and the use of an in-house repro camera for the photos and listings everything is done on the ST. Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, an Atari Laser Printer, Citizen 124D printer, Philips CM8833 monitor, 130XE, XF551 disk drive, 810 disk drive, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, TariTalk, Turbo Basic and various custom written programs on the XL/XE. Articles and programs submitted on XL/XE disks are subjected to various custom written programs before being transferred across to the ST via TARITALK. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. A disk with the finished pages as Postscript files is sent to a typesetting bureau to be output on a Linotron and, hey presto, finished pages are sent back exactly as you see them. It really does work! All that is left is to drop in the listings and photos.

Well, it's not quite as easy as that but you get the idea!

Editorial

POST OFFICE PS

Last issue's tirade about the postal service may have actually had some effect. At least we received a call from the Public Relations department of the Royal Mail asking for a copy of the article. This was duly sent but we heard nothing more. I wonder what happened. Did it just get filed or did someone actually do something? You would think that if the PR department was genuinely interested they would have, at least, dropped us a line to the effect that they were concerned and would be investigating how to improve the service, wouldn't you? One thing we do know is that properly addressed mail still fails to arrive. We posted a valuable parcel of secondhand books to a customer in mid December which, to date, has failed to arrive. Doubly annoying because the books were 'one offs' which will be almost impossible to replace. Looks like will be have to continue to live with the fact that there are no guarantees as far as the mail is concerned.

HOW MANY MORE?

I wonder how many more Atari 8-bit owners there are, siting quietly at home with their machines wondering how on earth they find any software or support? We have certainly had a great number of enquiries in recent months from folks who have never heard of the magazine and have no idea what software is still available or where to get it from. Most of these have been referred to us by Atari or by Silica Shop who are no longer interested in servicing the shrinking 8-bit market. Whilst these referrals are most welcome I can't help wondering how different things might have been if Atari, in particular, had been more helpful in the past in alerting owners to our existence. What is obvious is that there are still many more owners who don't read New Atari User. What is not obvious is how we reach those people. Now that the weekly computer mags have gone the avenues for advertising are limited and with advertising costs being quite horrendous, we have to be sure that any advertising reaches the right people. Any ideas? If you are a new reader perhaps you would care to drop us a line to say what other computer related magazines you read, or what general magazines, or how you came to hear about us in the first place. It is quite sickening to think that a large number of Atari owners may just fade away because they can't find any support when the support is most definitely there if only we could find those owners.

GOODBYE GERMANY?

Now that 1992 is here, we are supposed to have closer links with Europe and freer trade but our recent experience with the German software we advertised last issue has not been encouraging. Supply of these items has been erratic and your response has been quite poor so that it does not seem worth our while to struggle on trying to supply new software at the cost of a lot of work and little reward. Why is it that new software does not sell yet old chestnuts that we feature in the Accessory Shop, such as Pacman, Loderunner, Star Raiders etc. continually sell out? Most probably it is because the new German stuff is on disk while the more popular games that sell out are on ROM cartridge. It can't be the price, which is similar, so is it that there is still this major shortage of disk drives out there? Maybe that is the real answer. Maybe those with the disk drives are the more serious users who prefer writing programs to playing games. Whatever the answer, it is sad that good software from Germany which we have heard about for many, many years, having finally become available does not seem to command the interest it should. There is now virtually no new software being written in the UK or in the States so the mainland European countries will be the only source of new software, providing that they continue to receive support. Support which, it seems, that we as a nation are not really interested in giving.

HAPPY 1992

A bit belated I know but I am actually typing this on New Years Day, so I take this opportunity to wish all our readers a Happy New Year and let's hope that we all survive another year in the best shape possible.

Les Ellingham

MICRO DISCOUNT

XL/XE DISKS

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Sorceror of Claymore
Spy vs Spy
Star Wars
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Super Boulderdash
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Trivial Pursuit
Video Title Pack
Zaxxon

BOOKS

130XE HANDBOOK
DOS 2.5 MANUAL/DISK
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800XL USER MANUAL
PROGRAMMING THE 600/800XL
400/800 TECH REFERENCE NOTES
400/800 BASIC MANUAL
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Ace of Aces
Cavernia
Draconus
Beta Lyrae
Gauntlet
Tomahawk
Ninja Commando
Fred
Las Vegas Casino
Mountain Bike Racer
Stack Up
Mission Shark
Jocky Wilson's Darts
Speed Hawk
Blinky's Scary School
Hawk Quest

XL/XE ROM CARTRIDGES

Ace of Aces
Adventure Creator
Airball
Archon
Asteroids
Atari 400/800 Basic
Ballblazer
Barnyard Blaster (LG)
Battlezone
Beam Rider
Blue Max
Chicken
Chopper Lifter
Claim Jumper
Crime Buster (LG)
Dark Chambers
David's Midnight Magic
Desert Falcon
E.T.
Eastern Front
Fight Night
Final Legacy
Flight Simulator II
Food Fight
Galaxian
Gato
Hardball
Joust
Kaboom
Karateka
Linking Logic
Lode Runner
Mario Bros
Master Type
Math Encounter
Missile Command
Moon Patrol
Ms Pacman
Necromancer
One on One
Pac Man
Pole Position
QBert
Rally Speedway
Rescue on Fractulas
River Raid
Robotron
Sky Writer
Star Raiders II
Star Trek
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Tennis
Typo Attack
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Wizard of Wor
Zone Ranger

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5 - includes reviews, EXCEL ART (9 colour drawing utility), and two superb games ATOMIT and SUBMISSION
6 - includes reviews, an excellent DEMO, a CALCULATOR utility, WORLD CUP 86 and EMPIRE STRIKES BACK games and more
7 - includes FRUIT PICKIN, NAVAL BATTLE and FRUIT SALAD games, plus COMMODORE 64 SLIDESHOW and new games reviewed
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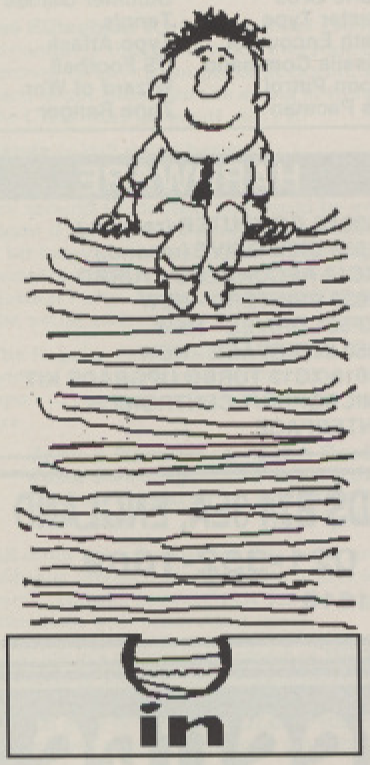
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Issue 42	Issue 53

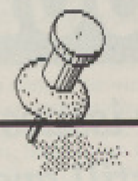
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AMS MEMORIES

Just a few lines to say what a pleasure it was to see you and the PAGE 6 crew at the AMS 5 show at the Bingley Hall. There was brisk trade on the stand and many bargains to be had. We hope that you made enough to swell the Page 6 coffers to buy each other a well deserved drink afterwards!

It seemed to us that every other person was carrying something to do with an Atari! Derek Fern on the Micro Discount stand next to yours seemed to be doing particularly well, as my son had to practically fight his way to the front to collect some advanced ordered goods. He also bought a 65XE (expanded to 128k) from another stand for £30. Dean Garraghty was demonstrating an interesting sound program and Gralin were selling an exciting amount of hitherto elusive hardware (where's it all been hiding from us!). As regards Gralin we heard someone on their stand saying that they now owned the rights to 2-Bit Systems programs and would soon be marketing them. Needles to say our money was all exhausted by lunchtime and we were unable to stay till the end, but it was well worth the 200-odd mile round trip. It always baffles me that Atari as a company would want to miss out on all this obvious enthusiasm (not to mention revenue) for their own product.

In finishing I would also like to take this opportunity of thanking Sharward Services for organising another good show. Hope to see you all there next year.

Richard & Matthew Preston,
Winslow, Bucks

AMS 2

It was nice to see the 8-bit Atari so well supported compared to what I'm used to at AMS 5. There also seemed to be more people around the Atari stands than others. There were bargains galore to be found although you had to fight your way to the front on some of the stands.

Although most of what was on show was old there was one new release from Dean Garraghty. Thanks to him for the demonstration of Digi-Studio. It allows you to play music with real sounds recorded using 2-Bit Systems Replay cartridge. Although I have not had the chance to use the program myself, the sound quality was superb and very realistic. He should be congratulated for his continued support. Hopefully his second package for Digi-Studio will be available soon.

All the people with 8-bit stands should be thanked, Page 6, Gralin International, Micro Discount, Dean Garraghty and Miles Better Software. Anybody who is interested in the survival of the 8-bit should go to AMS 6 next year.

Robert Bainbridge,
Stoke-on-Trent

Once again my friends and I made the annual pilgrimage from the North East to Stafford for the All Micro Show 5. The support for the Atari 8-bit computer seems to get better year by year. Plenty of hardware and software on sale at affordable prices. An opportunity to stock up on my New Atari User Binders, also printer ribbons, blank disks etc. Atari users should book the date for the next show in their diaries now - it' 14th November 1992.

Tommy Wood,
Hartlepool

DARK STAR

Please find enclosed the latest issue of my fantasy magazine Dark Star.

I thought you might be interested to see what I get up to with my 130XE, XF551, Panasonic KXP1081, Atariwriter Plus, Daisy Dot II editor and formatter! Hope you enjoy reading it, if you could mention it in NAU that would be great. Please write and let me know what you think.

Rob Dyer,
Gravesend

Thanks for the mag, Rob. As usual I have not had time to write back personally but have to say that the magazine is most impressive. If any readers are interested in Fantasy and Science Fiction films, videos, books etc. I strongly recommend that you try a copy of Dark Star. If you are not particularly interested then I suggest that you get hold of a copy anyway just to see what excellent results can be achieved with a 130XE plus a little bit of application and dedication. It certainly puts a lot of user group newsletters to shame! The cover price of the issue sent is £1.50 and back issues are mentioned inside at £2 inclusive of post and packing so I suggest that you send off £2 now for the latest issue of dark Star, just to see what it is like. The address is DARK STAR Magazine, 64, Arthur Street, Gravesend, Kent. Cheques should be made payable to Dark Star.

SOME TIPS

Did you know that if you connect pin 5 (live) and pin 2 (0v) of the serial port to the microphone socket of a standard tape recorder you

can CSAVE to a standard cassette recorder? The catch is that you cannot CLOAD without a decoder, however you can put the tape into an Atari recorder and CLOAD it. The point is that if your Atari recorder is dodgy on record (like mine) you can get better results.

If you have a US Doubler and DOS 2.0s you can use DOUBLE DENSITY disks with 180k of storage. The problem is that if you have only one drive you need a D/D disk to start you off. If you have two drives then you can make your own master disk. From Basic set the Configuration Block to D/D and go to DOS and format your disk. Use the H option to write the DOS files and away you go.

I hope that these couple of tips prove useful to some readers.

H.S. Wood,
Bradford

CRYSTALS

I liked the little program called CRYSTALS in the last issue but unfortunately if like me you have no printer the program stops at line 230 waiting for printer response.

By changing a few lines the program continues to show new patterns every 45 seconds. I have also added a bit of colour to brighten up the display. here are the changed lines

```
190 SETCOLOR 1,0,15:
SETCOLOR 2, RND(0)*15,2
200 SETCOLOR 4,
RND(0)*15,4
230 FOR D=1 TO
2000:NEXT D:RUN
9000 REM
9030 ? #6
9080 ? "PLEASE WAIT 45
SECONDS ..."
```

I hope your readers like the modification. It never repeats the same pattern twice.

W.H. Morgan
Widnes

PRINTING

I have upgraded my system to a 130XE, 1050 with ISS Plate, a 1020 plotter and a Citizen Swift 9 'colour' printer. I find the set-up very satisfying but a problem has cropped up which you might be able to clarify. How do you get inverse video to at least print out in lettering rather than the Graphics set? It is a big problem on listings which make a lot of use of this.

I am amassing loads of knowledge about 8-bit programming in a rather haphazard manner and thoroughly enjoying myself however it would be nice to eventually put my skills to good use. How about an article on practical ways of harnessing one's computer to the problem of becoming a millionaire?

Finally if anyone with a 1020 plotter needs to really find out its capabilities, I would recommend that they get hold of the Victograph Plot Window (Derek Fern has some). It is amazing what can be done with the aid of the programs in this package.

John Perrin
Folkestone

The best way to get inverse video to print out is by using a special printer driver for the purpose. We use an old commercial program Print Wiz (long since disappeared) to print out our listings and this will produce all inverse and graphics characters on a variety of printers. There are also a number of such programs in the public domain, check our PD library. The problem is that most of these program are for Epson compatible printers and may not work on a 'colour' printer, although if you can set the printer in 'Epson' standard mode they should be okay. The other way to get inverse to print as normal lettering is to set the dip switches on your printer to 'ignore the eighth bit'. This is a fairly common feature on printers and you should check your manual to see if it is possible. If you can do this then you should find that inverse characters print out as normal. If you want to use your printer for graphics, however (assuming that you have the appropriate program) you will have to reset the dip switch.

Nice to hear about the Victograph Plot Window again which we reported on way, way back, maybe around issue 4 or so. Certainly very useful with the 1020. Finally if I ever discover the way to set the old Atari to use to become a millionaire you can be assured that I will let you know, maybe from Barbados!

KEEP BUYING

I recently wrote to Hi-Tec and asked then about future releases. They informed me that they would no longer be doing Atari 8-bit conversions which is yet another blow to the rapidly diminishing Atari 8-bit scene. So, is that it? No! I plead to all PAGE 6 readers to write to Hi-Tec and promise to buy any new releases and if they do release another 8-bit conversion buy it straight from Hi-Tec. Show your commitment, it's up to us!

Sue Donym,
Glossop

I'm not surprised that Hi-Tec are not doing more Atari 8-bit software since they tried hard to keep secret the games that they did release. I am constantly astonished how software companies fail to promote their products. Hi-Tec had some fabulous Atari 8-bit releases yet they never sent out one copy for review despite our telephoning and FAXing them regularly. The games we did review we bought ourselves, once we finally discovered that they had been released. From a business point of view I fail to see why we should have to buy games to review so that the publisher can make money from the subsequent sales. Of course we want to continue to support the Atari so we feel it our duty to review any software, even if we have to buy it ourselves, but that's not quite the point. Hi-Tec were probably disappointed about the sales of their Atari releases but then if they never told anyone about them what did they expect? Write to Hi-Tec by all means. I hope that it will have some effect but, unless Hi-Tec have woken up to proper marketing, you may not have much success.

SUPPORT

With reference to readers who ask for information about where to buy software and hardware, I have recently been sent a list of people who are still supporting the 8-bit system. The list has some 40 plus names and addresses of software companies, PD libraries etc. and covers the USA, Canada and the UK. Also the list has magazine publishers including a new publication named 'AtariUser'.

If anyone would like a copy of this list, please send an SAE (23omm x 105mm) to STOURBRIDGE USER GROUP, (SOURCE FILE), 99 BREDON ROAD, STOURBRIDGE, WEST MIDLANDS, DY8 4LA.

Les Taylor,
Stourbridge User Group,
Stourbridge

Sounds like the sort of thing we should publish, Les, for the benefit of all Atari users and it would save you a lot of photocopying. How about sending us the list and we will publish it in the next issue giving you the appropriate credit. If anyone else has information like this, then send it in to be published. The Atari community needs all the support it can muster and the members of just one user group surely won't be enough to keep commercial support going. On the other hand, if the information reaches several thousand dedicated Atari users all over the UK (and overseas) that's a different matter.

BOMB HUNTER

Now that Nuclear testing has ceased on the planet of Ataria, some lucky soul has got to go there and clear away the remaining unexploded bombs. Guess who drew the short straw? Yes, you did!

The object of the game is to move around the surface of Ataria in your blue bombseeker ship and collect as many of the white square bombs as possible. It's not as easy as it seems though. For a start the radiation level (indicated by the vertical bar on the left hand side of the screen) will increase continually due to the high background intensity caused by hundreds of years of testing and each bomb has a countdown timer. When this timer reaches zero it will blow up emitting more radiation.

There are seven levels to the game (levels 6 and 7 are almost impossible to complete) and as levels increase the number of bombs needed and the number of space cacti and radioactive trees increase while the initial count-down number decreases. On level 1 the count-down timer is set to 10. For each of the next levels the timer decreases by one and the bombs to collect increases by 2 until, on level 5, the count-down number is 3 and the number of bombs to collect is 18.

To collect and disarm a bomb simply guide your ship over the bomb, your onboard computers will do the rest. To complete the game you must collect at least 70 bombs and complete the level you were on when you reached that number. The game is over when the radiation bar reaches its maximum value. Once a level is completed, this bar reduces in size.

The game allows you to select any level from 1 to 5 to start on, but to enable you to finish the game it is necessary to start on level 1. Also included is a pause mode, activated and de-activated by pressing the space bar.

by Richard Gore

```
EI 1 REM ********************************
OB 2 REM *          BOMB HUNTER         *
RQ 3 REM *              by              *
JG 4 REM *         Richard Gore         *
EC 5 REM * ---------------------------- *
BH 6 REM * NEW ATARI USER  - FEB. 1992 *
EO 7 REM ********************************
NN 8 REM
LT 10 DIM CL$(17),COPY$(34)
ER 20 N=0:N1=1:N2=2:N8=8:HISC=N:LEV=N1:CO
   N=53279:BFLAG=N:BCNT=N:X=10:Y=10:BAR=1
   12:CBAR=N:BTOTAL=N
FY 50 GOTO 10000
DM 59 REM ** INCREASE RADIATION BAR **
YJ 60 BAR=BAR-N1:IF BAR<20 THEN GOTO 1000
IQ 65 POKE PMB*256+512+BAR,255
NV 70 IF BAR=43 THEN POSITION 3,N1:? #6;"
   CRITICAL":SOUND N2,200,12,12:FOR D=N T
   O 30:NEXT D:SOUND N2,N,N,N
ZY 80 RETURN
EX 99 REM * MAIN MOVEMENT/CONTROL LOOP *
AO 100 S=STICK(N):Z=32:POKE 77,N
ZE 105 BCNT=BCNT+N1:CBAR=CBAR+N1
HN 110 IF S=14 AND Y>N2 THEN LOCATE X,Y-N
   1,Z:IF Z=32 OR Z=BETA THEN GOSUB 400
MJ 111 IF BCNT>11 THEN GOSUB 450
KG 115 IF S=13 AND Y<20 THEN LOCATE X,Y+N
   1,Z:IF Z=32 OR Z=BETA THEN GOSUB 410
NB 117 IF BCNT>11 THEN GOSUB 450
NK 120 IF S=11 AND X>N2 THEN LOCATE X-N1,
   Y,Z:IF Z=32 OR Z=BETA THEN GOSUB 420
MO 122 IF BCNT>11 THEN GOSUB 450
GZ 125 IF S=7 AND X<18 THEN LOCATE X+N1,Y
   ,Z:IF Z=32 OR Z=BETA THEN GOSUB 430
NG 128 IF BCNT>11 THEN GOSUB 450
DQ 130 IF Z=106 OR Z=107 THEN SOUND N2,12
   3,12,N8+N2:FOR D=N TO N8+N1:NEXT D:SOU
   ND N2,N,N,N
OI 150 IF PEEK(CON)=N8-N2 THEN GOTO 11000
HI 200 IF BFLAG=N THEN GOSUB 750
JW 220 IF CBAR>4 THEN CBAR=N:GOSUB 60
AP 230 IF PEEK(764)=33 THEN GOSUB 8000
RY 290 POSITION X,Y:? #6;"G"
LI 300 GOTO 100
AP 400 POSITION X,Y:? #6;" ":Y=Y-N1:IF Z=
   BETA THEN GOSUB 500
WX 405 POSITION X,Y:? #6;"G":RETURN
YJ 410 POSITION X,Y:? #6;" ":Y=Y+N1:IF Z=
   BETA THEN GOSUB 500
```

BOMB HUNTER

```
WZ 415 POSITION X,Y:? #6;"▣":RETURN
YP 420 POSITION X,Y:? #6;" ":X=X-N1:IF Z=
   BETA THEN GOSUB 500
XB 425 POSITION X,Y:? #6;"▣":RETURN
WJ 430 POSITION X,Y:? #6;" ":X=X+N1:IF Z=
   BETA THEN GOSUB 500
XD 435 POSITION X,Y:? #6;"▣":RETURN
YU 449 REM ** BOMB COUNTDOWN **
OV 450 SOUND N,(BETA-20)*11,N8+N2,(41-BET
   A+N2)*N2:BCNT=N
RB 455 BETA=BETA-N1:IF BETA<=34 THEN GOTO
    470
HM 460 POSITION BX,BY:? #6;CHR$(BETA):FOR
    D=N TO 9:NEXT D:SOUND N,N,N,N:SOUND N
   1,N,N,N
AB 465 RETURN
AF 469 REM ** BLOW UP BOMB **
WP 470 POSITION BX,BY:? #6;"@":SOUND N,99
   ,N2,N8:SOUND N1,200,N8,N8
RO 475 FOR I=N TO N2+N1
WE 478 GOSUB 60
TZ 480 POKE 712,52:FOR D=N TO N2:SOUND N2
   ,78,D,D+N8:NEXT D
SO 485 POKE 712,N:FOR D=N TO N2:SOUND N2,
   D*10,D+N2,N8:NEXT D:SOUND N2,N,N,N:NEX
   T I
UC 495 FOR D=N TO N2:SOUND D,N,N,N:NEXT D
   :POSITION BX,BY:? #6;" ":BFLAG=N:POKE
   712,N:SC=SC-N2:GOSUB 600
SW 497 GOTO 465
CZ 499 REM ** BOMB HIT **
DF 500 SOUND N,219,N8,N8:BOMB=BOMB+N1:SC=
   SC+(46-BETA):BTOTAL=BTOTAL+N1
OL 510 POSITION BX,BY:? #6;"▣":GOSUB 600
SW 520 FOR D=N TO 50:NEXT D:SOUND N,N,N,N
QR 525 IF BOMB>=8+(N2*LEV) THEN GOTO 2000
KU 530 BFLAG=N
ZL 550 RETURN
FW 599 REM ** UPDATE SCORES **
IM 600 IF SC<N THEN SC=N
FQ 605 POKE 656,N1:POKE 657,11:? LEV
VK 610 POKE 656,N1:POKE 657,22:? BTOTAL
KA 620 POKE 656,N1:POKE 657,33:? SC
ZI 630 RETURN
RH 749 REM ** PLACE A BOMB **
CK 750 BX=INT(RND(N)*13)+5:BY=INT(RND(N)*
   15)+N2+N1
JP 755 LOCATE BX,BY,Z:IF Z<>32 THEN GOTO
   750
QB 760 BETA=42-LEV:POSITION BX,BY:? #6;CH
   R$(BETA)
IH 765 BFLAG=N1
ZR 770 RETURN
FB 999 REM *** END OF GAME ***
AQ 1000 POKE 709,58:POKE 711,50:SOUND N,P
   EEK(53770),10,10:LEV=N1
CC 1005 FOR D=N2 TO 18:POSITION N2,D:? #6
   ;"                    ":NEXT D
QI 1010 POSITION N8-N2,N8+N1:? #6;"gAmG o
   VeR":SOUND N,N,N,N
LN 1015 IF SC>HISC THEN HISC=SC
CV 1020 POSITION N2+N1,14:? #6;"HI-SCORE
   IS ";HISC
QY 1025 POSITION N2+N1,17:? #6;"LAST SCOR
   E ";SC:POSITION N2,19:? #6;"BOMBS DEFU
   SED ";BTOTAL
KU 1030 ? CHR$(125):POKE 656,N:POKE 657,6
NC 1032 ? "**********************************
   *"
HG 1034 ? "     * PRESS FIRE FOR ANOTHER G
   AME *"
KY 1036 ? "     ***************************
   *****"
SS 1050 RESTORE 1099
RD 1055 READ I,A:IF I=N THEN GOTO 1075
KF 1060 SOUND N,I,10,N8:FOR D=N TO 15:NEX
   T D
EI 1062 SOUND N1,I+N1,10,N8-N2:FOR D=N TO
    15:NEXT D
QS 1064 SOUND N2,I+N2,10,N8:FOR D=N TO 15
   :NEXT D
YK 1066 SOUND N1+N2,I+N2+N1,10,N8-N2:FOR
   D=N TO A:IF STRIG(N)=N THEN GOTO 1095
EK 1068 NEXT D
SO 1070 GOTO 1055
EH 1075 FOR D=N TO N2+N1:SOUND D,N,N,N:NE
   XT D
AB 1080 IF PEEK(CON)=N8-N2 THEN GOTO 1100
   0
DS 1083 POKE 77,N
AO 1085 IF STRIG(N)=N THEN GOTO 11000
RP 1090 GOTO 1080
RP 1095 POP :FOR D=N TO N2+N1:SOUND D,N,N
   ,N:NEXT D:GOTO 11000
YJ 1099 DATA 73,55,64,55,81,75,162,101,12
   3,151,0,0
WB 1999 REM ** INCREASE INGAME LEVEL **
UW 2000 SC=SC+20:LEV=LEV+N1:BOMB=N
JO 2003 IF BTOTAL>=70 THEN GOTO 4000
YH 2004 IF LEV>7 THEN GOTO 1000
YG 2005 POSITION 3,5:? #6;"NOW TRY LEVEL
   ";LEV
XD 2010 GOSUB 600
IM 2020 FOR D=N TO 3
FY 2030 SOUND N,234,10,10:SOUND N1,255,12
   ,12
NH 2040 FOR J=N TO 35:NEXT J
BK 2050 SOUND N,N,N,N:SOUND N1,N,N,N
MW 2055 FOR J=N TO 6:NEXT J
DF 2060 NEXT D
YG 2080 GOSUB 3000
ZS 2085 FOR J=N TO 39
BI 2090 BAR=BAR+N1
FE 2095 IF BAR>43 THEN POSITION 3,N1:? #6
   ;"..SAFE.."
GD 2100 IF BAR>111 THEN BAR=111:POP :GOTO
    2120
UV 2110 POKE PMB*256+512+BAR-N1,N:SOUND N
   ,BAR+23,14,N8
GA 2115 NEXT J
GS 2120 SOUND N,N,N,N:GOTO 100
EE 2999 REM ** PLOT SCREEN CHARACTERS **
CV 3000 FOR I=N2 TO 20:POSITION N2,I:? #6
   ;"                    ":NEXT I
WO 3010 FOR I=N2 TO N8+LEV
NR 3020 D=INT(RND(N)*15)+N1+N2:A=INT(RND(
   N)*16)+N2
NN 3030 POSITION D,A:? #6;"j":NEXT I
JC 3040 FOR I=N TO N2+(LEV-N1)
SC 3050 D=INT(RND(N)*15)+N1+N2:A=INT(RND(
   N)*9)+N8
OV 3060 POSITION D,A:? #6;"k":NEXT I
PM 3070 POSITION X-N1,Y:? #6;" ▣"
AZ 3080 POKE 559,46
BB 3090 GOSUB 750
AD 3100 RETURN
UV 3999 REM ** FINISHED GAME **
HQ 4000 SC=SC+(112-BAR):LEV=5:GOSUB 600
BR 4020 FOR D=N2 TO 18:POSITION N2,D:? #6
   ;"                    ":NEXT D
JZ 4040 RESTORE 6000
XE 4050 FOR J=N1 TO 15:READ A:POSITION N2
   +J,N2:? #6;CHR$(A);:SOUND N,J+7,8,10:N
   EXT J:SOUND N,N,N,N
ED 4060 FOR J=N1 TO 9:READ A:POSITION 5+J
   ,4:? #6;CHR$(A);:SOUND N,J*N2,10,10:NE
   XT J:SOUND N,N,N,N
MS 4070 FOR J=N1 TO 9:READ A:POSITION 5+J
   ,6:? #6;CHR$(A);:SOUND N,J*N2,12,10:NE
   XT J:SOUND N,N,N,N
QQ 4080 FOR J=N1 TO 12:READ A:POSITION 4+
   J,8:? #6;CHR$(A);:SOUND N,J*4,12,10:NE
   XT J:SOUND N,N,N,N
HR 4090 FOR J=N1 TO 13:READ A:POSITION 3+
   J,11:? #6;CHR$(A);:SOUND N,J*5,8,10:NE
   XT J:SOUND N,N,N,N
HE 4100 FOR J=N1 TO 13:READ A:POSITION 3+
   J,13:? #6;CHR$(A);:SOUND N,J*6,6,10:NE
   XT J:SOUND N,N,N,N
EH 4110 FOR J=N1 TO 15:READ A:POSITION N2
   +J,15:? #6;CHR$(A);:SOUND N,J*7,8,10:N
```

continued ☛

BOMB HUNTER

```
   EXT J:SOUND N,N,N,N
BV 4120 FOR J=N1 TO 15:READ A:POSITION N2
   +J,17:? #6;CHR$(A);:SOUND N,J*8,10,10:
   NEXT J:SOUND N,N,N,N
XQ 4130 FOR J=N1 TO 9:READ A:POSITION 5+J
   ,19:? #6;CHR$(A);:SOUND N,J*9,12,10:NE
   XT J:SOUND N,N,N,N
KW 4200 ? CHR$(125);CHR$(253)
PN 4210 IF SC>HSC THEN HSC=SC
EX 4220 ? "  TOP SCORE: ";HSC;"  LAST SCO
   RE: ";SC:?
VG 4230 ? "        Press START to play agai
   n."
KX 4300 IF PEEK(53279)=6 OR STRIG(N)=N TH
   EN GOTO 11000
PU 4320 GOTO 4300
IR 6000 DATA 67,79,78,71,82,65,84,85,76,6
   5,84,73,79,78,83
LB 6010 DATA 89,79,85,32,32,72,65,86,69
AX 6020 DATA 67,79,77,80,76,69,84,69,68
ER 6030 DATA 66,79,77,66,32,72,85,78,84,6
   9,82,46
FB 6040 DATA 87,65,84,67,72,32,79,85,84,3
   2,70,79,82
YO 6050 DATA 66,79,77,66,32,72,85,78,84,6
   9,82,32,50
OI 6060 DATA 67,79,77,73,78,71,32,83,79,7
   9,78,32,84,79,79
QU 6070 DATA 65,78,32,32,56,45,66,73,84,3
   2,65,84,65,82,73
SW 6080 DATA 78,69,65,82,32,89,79,85,46
WU 7999 REM ** PAUSE ROUTINE **
KW 8000 ? CHR$(125);CHR$(253)
SN 8010 ? "            GAME PAUSED        "
GK 8020 ? "        -----------------------"
SS 8030 ? "        Press SPACE to continue"
GK 8040 POKE 764,255
YC 8050 IF PEEK(764)=33 OR STRIG(N)=N THE
   N POKE 764,255:? CHR$(125):GOSUB 8100:
   RETURN
SZ 8060 GOTO 8050
PU 8100 POKE 656,N1:POKE 657,4:? "LEVEL >
   ";LEV
LN 8110 POKE 656,N1:POKE 657,26:? "SCORE 
   >";SC
KV 8120 POKE 656,N1:POKE 657,15:? "BOMBS 
   >";BTOTAL
AR 8130 RETURN
HR 9999 REM ** SETUP CHSET & PMG    **
SH 10000 PMB=PEEK(106)-N8:POKE 106,PMB:CH
   B=PMB+4
VV 10010 GRAPHICS 17
NS 10020 RESTORE 20000:FOR I=N1 TO 17:REA
   D A:CL$(I,I)=CHR$(A):NEXT I
UO 10030 RESTORE 20010:FOR I=N1 TO 34:REA
   D A:COPY$(I,I)=CHR$(A):NEXT I
IU 10040 FOR I=PMB TO PMB+7:A=USR(ADR(CL$
   ),I):NEXT I
CR 10050 A=USR(ADR(COPY$),CHB*256)
VN 10100 CHBS=CHB*256
IY 10110 FOR I=CHBS+(58*N8) TO CHBS+((58*
   N8)+7):POKE I,255:NEXT I:REM Z
IL 10120 RESTORE 20050
QB 10125 FOR I=CHBS+(N8*3) TO CHBS+((N8*9
   )+7):READ A:POKE I,A:NEXT I:REM # → )
UZ 10128 FOR I=CHBS+(N8*32) TO CHBS+((N8*
   32)+7):READ A:POKE I,A:NEXT I:REM @
KZ 10130 FOR I=CHBS+(N8*42) TO CHBS+((N8*
   43)+7):READ A:POKE I,A:NEXT I:REM J &
   K
IU 10140 FOR I=CHBS+(N8*49) TO CHBS+((N8*
   49)+7):READ A:POKE I,A:NEXT I:REM Q
OE 10145 FOR I=CHBS+(N8*59) TO CHBS+((N8*
   59)+7):READ A:POKE I,A:NEXT I:REM [
ZO 10500 REM FOR I=20 TO 111:POKE PMB*256
   +I+512,255:NEXT I
EN 10900 RESTORE 32000:FOR I=1536 TO 1551
   :READ A:POKE I,A:NEXT I
IV 10999 REM **      TITLE SCREEN       **
ON 11000 GRAPHICS N1:POKE 16,64:POKE 5377
   4,64:POKE 756,CHB:POKE 752,N1:POKE 559
   ,N:BAR=112:CBAR=N:BTOTAL=N
VD 11005 FOR I=17 TO 113:POKE PMB*256+I+5
   12,0:NEXT I
OR 11010 DL=PEEK(560)+PEEK(561)*256:POKE
   DL+N2+N1,66:POKE DL+11,134
SH 11015 POKE 512,N:POKE 513,N8-N2:POKE 5
   4286,192
CD 11020 POKE 712,N:POKE 711,122:POKE 710
   ,34:POKE 709,172:POKE 708,212
TB 11100 FOR I=N2 TO 22:POSITION N,I:? #6
   ;"ZZ                 Z":NEXT I
TD 11110 POSITION N,N:? #6;"[[[[ RADIATIO
   N LEVEL : ..SAFE.."
CG 11150 POSITION N8,5:? #6;"bomb":POSITI
   ON 7,7:? #6;"hunter"
EC 11160 POSITION 3,12:? #6;"by richard g
   ore"
KG 11165 POSITION 6,16:? #6;"LEVEL : ";LE
   V
HT 11170 ? CHR$(125);CHR$(253):POKE 656,N
   :POKE 657,11:? "PRESS START TO PLAY"
BS 11180 POKE 656,N2:POKE 657,9:? "PRESS
    SELECT FOR LEVEL"
KY 11190 POKE 559,46
TX 11300 IF PEEK(CON)=N8-N2 THEN GOTO 115
   00
IS 11310 IF PEEK(CON)=5 THEN GOSUB 11400
QJ 11313 IF STRIG(0)=N THEN GOTO 11500
VR 11315 D=D+N2:IF D>252 THEN D=N2
WN 11320 POKE 711,D:POKE 77,N
YG 11330 GOTO 11300
NX 11399 REM **   SELECTable LEVEL     **
TP 11400 SOUND N1,218,N8,14
SL 11405 LEV=LEV+N1:IF LEV>5 THEN LEV=N1
MM 11410 POSITION 14,16:? #6;LEV
JT 11415 FOR A=N1 TO 10:NEXT A
FH 11420 SOUND N1,N,N,N
ES 11425 RETURN
KN 11499 REM ** SETUP START OF GAME   **
BE 11500 POKE 559,N:SOUND N,N,N,N:SC=N:BO
   MB=N:BETA=41
DL 11502 POKE 53248,52:POKE 53277,3:POKE
   54279,PMB
UC 11505 FOR I=17 TO 111:POKE PMB*256+I+5
   12,0:NEXT I
NP 11510 ? CHR$(125)
MW 11515 POKE 708,12:POKE 709,92:POKE 711
   ,154:POKE 704,52
JG 11520 GOSUB 8100
GA 11600 GOSUB 3000
QE 12000 GOTO 100
TM 19999 REM **    M.C. CLEAR DATA     **
WZ 20000 DATA 104,104,104,133,213,169,0,1
   33,212,160,0,145,212,136,208,251,96
CD 20009 REM ** M.C. CHSET MOVE DATA **
FG 20010 DATA 104,104,133,215,104,133,214
   ,169,224,133,213,169,0,133,212,162,4,1
   60,0,177,212,145,214,200,208,249,230
CI 20015 DATA 213,230,215,202,208,242,96
EF 20049 REM **     NEW CHSET DATA     **
NI 20050 DATA 255,129,137,137,137,137,129
   ,255
IQ 20055 DATA 255,129,153,137,145,153,129
   ,255
HU 20060 DATA 255,129,157,137,133,153,129
   ,255
UG 20065 DATA 255,129,137,153,189,137,129
   ,255
ID 20070 DATA 255,129,153,145,137,153,129
   ,255
OF 20075 DATA 255,129,141,153,149,157,129
   ,255
KB 20080 DATA 255,129,157,133,137,145,129
   ,255
QS 20085 DATA 32,139,102,24,89,102,129,20
CJ 20100 DATA 16,88,218,218,126,60,24,60
NC 20105 DATA 24,60,90,153,60,90,24,24
SE 20110 DATA 66,36,24,60,126,231,126,153
OM 20150 DATA 0,56,56,56,124,56,16,0
HA 31999 REM **         DLI DATA       **
HI 32000 DATA 72,169,172,141,10,212,141,1
   8,208,169,204,141,23,208,104,64
```

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ALTERNATE REALITY

THE DUNGEON

WosFilm, an Alternate Reality fanatic from Sweden presents the full maps of The Dungeon together with hints on solving the various quests you will encounter

I here present the full map of the Dungeon, and it's split into seven sections (because they're split up in the game data). The four first sections (0-3) form into the first level of the dungeon. The rest of the sections make out one level each, getting smaller as you descend into the mysteries. I've also mapped some places you normally can't get to, but with my Character Editor you can get anywhere! The co-ordinates at the bottom and to the left are the numbers you get when using a Location spell or a mapstone. At the top and to the right are the numbers to use with my Character Editor. Having a map makes the game a bit too simple (especially if you haven't made the map yourself...). Mapping is actually a big part of the fun in the game.

SOME QUESTS TO SOLVE
(given by the oracle of Wisdom)

Free the prisoner from the palace dungeons with a silver key.

Get the two ring halves from the goblin and the troll king, who are at war. Forge them together and bring the ring back.

On the second level, find the one in the room of glass. Don't start off without a touch of class.

Cross the river Stonz at midnight. On the other side awaits a king. Pass the seven knights who guard him to further your cause.

A fearsome face lurks by the dragons lair. Answer his queries for a valuable ally. Remember Xebec's demise.

The main quest though, is to collect the three pieces of Acrinimiril's broken staff, and bring them back to him (visit his spirit at his tomb, and he'll tell you about the quest). When you've done this, you get a PAC-card to use when you pass Death's Door to level 4. There you can destroy the Aliens' control room, and that's all.

TO SOLVE THE QUESTS

The Prisoner: if you walk around slaying a couple of creatures, you'll soon find a silver key. Enter the secret door on the southern palace wall. Once the prisoner is free, you get a new spell and a staffpiece.

The Ring: The only way you can retrieve a ringhalf from the rivals, is to engage each king in mortal combat (flee quickly when done). Go to the dwarven smithy on the second level to get it reforged, then offer it to the Oracle.

The glass room: On the second level near the north-east corner, there is a bunch of mirrored corridors. Have no weapon at hand when you enter these corridors since "dopple-gangers" are plenty. Also make sure you have some clothing that looks nice and that you can get rid of (i.e. not winged sandals or the like). Enter the clothes horse's room and accept his offer and you'll get a mirrored shield, which is essential to complete the game.

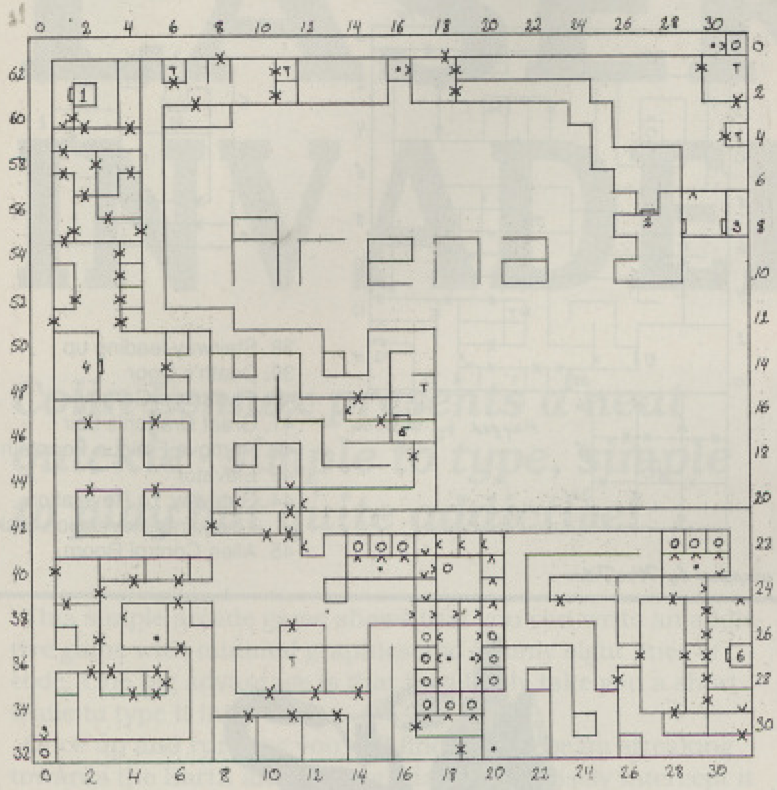
The River Stonz: From 0.00 to a few minutes after, you can cross the river Stonz at the rivercrossing. The manual says you should give the ferryman a small fee, and of course I thought it to be written with a hint of irony, but one should take it literally. The idea comes from the Greek myth of Hades to whom you should give the smallest coin. So, pay the ferry-man about 5 coppers, and he'll take you across the river. There is a secret door in the northern wall of the first corridor to the west. Behind it is another long corridor which is blocked by seven undead knights. Slay them all and enter the room of the undead king who will give you a staffpiece.

The Fearsome Face: A gargoyle is to the right of the entrance to the corridors of the great dragon. He gives riddles you should answer, but I don't know the answers (sorry...). But I think that if one solves all riddles you get to know what the dragon wants as exchange for the third staffpiece, and that's the bloodstone. Don't try to fight the dragon if you're not extremely powerful. He has about 10000 HP and deathcards wont hurt him very much. I defeated him once (after a very long struggle), but naturally my character was cheated. His weapon made high damage in every category (a minimum of about 120p of damage), a dozen of Golden Horns and so on.

To get the bloodstone: You should pass the winding corridor on the 3rd level, pass the rooms of confusion to the teleporter. You'll find yourself in a corridor which leads to a fountain but a basilisk blocks the way. He can turn you to stone by looking at you so you'd better have the mirrored shield ready (secondary weapon). Neither spells nor weapons effects this creature, you must fight him with your bare hands (it certainly took a while to figure that out!). When done, you'll find the bloodstone which you should give to the dragon, and he'll (it'll...) give you a staffpiece.

When you have all three staffpieces, give them to Acrinimiril in his tomb, use the PAC-card at Death's Door after passing the Gauntlet (beware of the dopple-ganger in the last room!),

Section 0 - Level 1

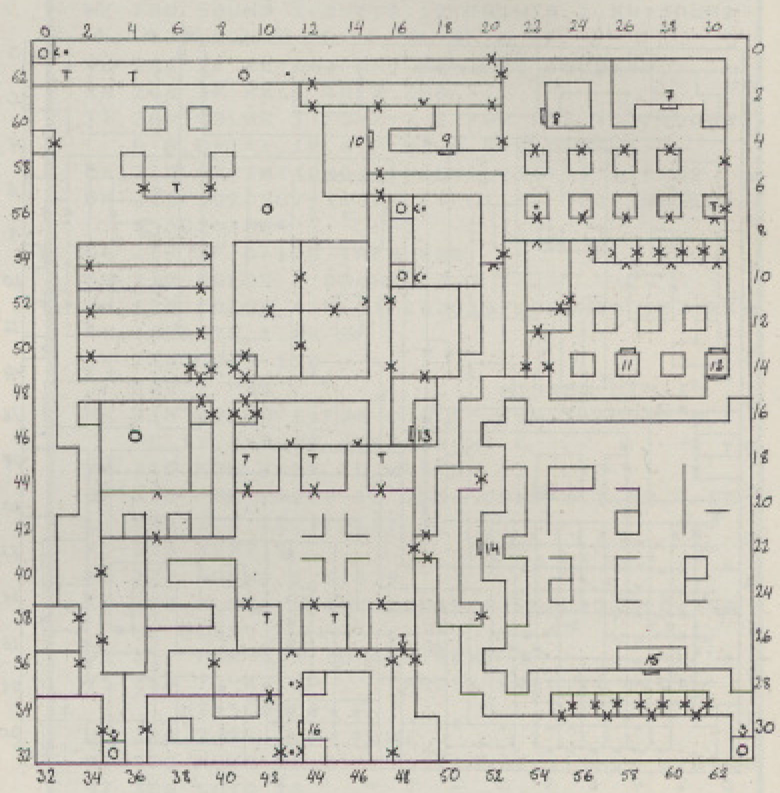


- Direction of access through wall or door (sometimes invisible)
- Two-directional access
- Entrance
- Treasure
- Teleporter
- Landing (from teleporter)-

1. Gram's Gold Exchange Vault
2. Dungeon Chapel
3. Chapel Sanctuary
4. Goblin King's Palace
5. Stairway Leading Down
6. The Tomb of Acrinimiril

mapped by WosFilm

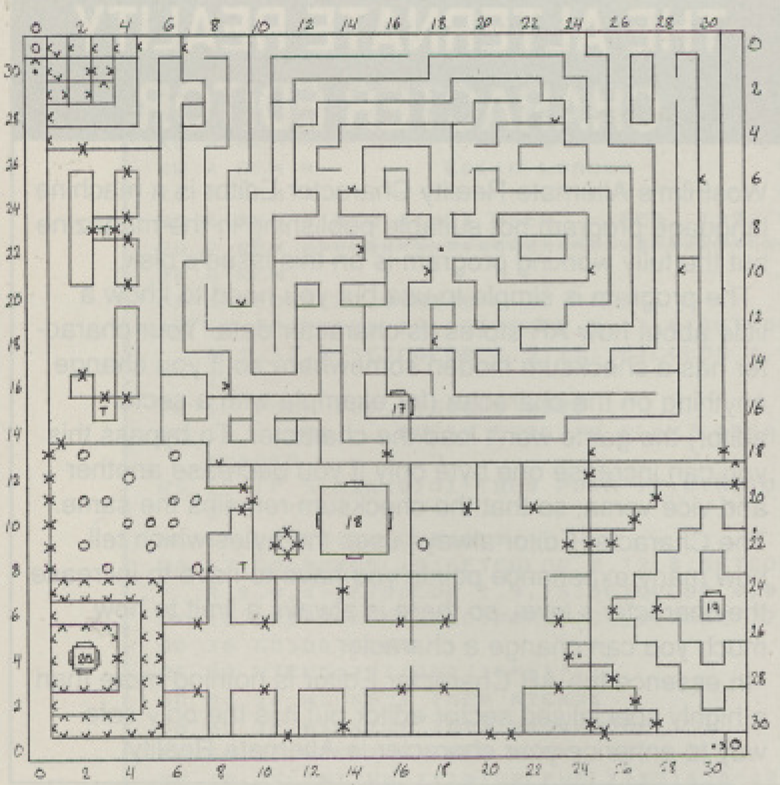
Section 1 - Level 1



mapped by WosFilm

7. Der Rathskeller Bar & Grille
8. The Retreat
9. Wizard of Chaos
10. Damon & Pythias Shoppe
11. Guild of Order
12. Wizards of Law Guild
13. Stairway Leading Down
14. Palace Entrance (requires Palace disk)
15. Palace Prison
16. Thieves' Guild

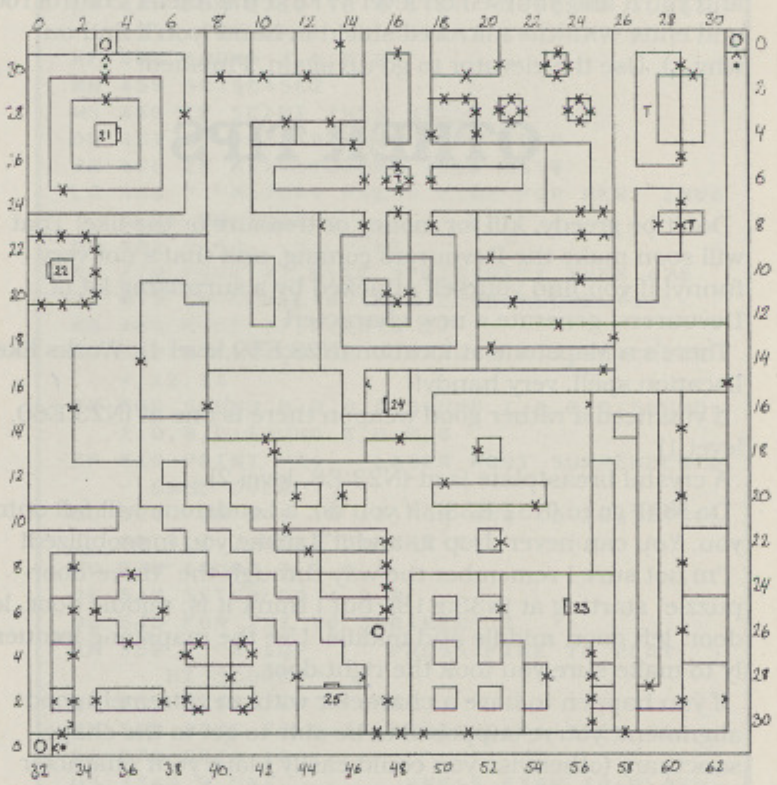
Section 2 - Level 1



mapped by WosFilm

17. Stairway Leading Down
18. Healing Fountain
19. First City Bank's Vault
20. Light Wizard's Guild

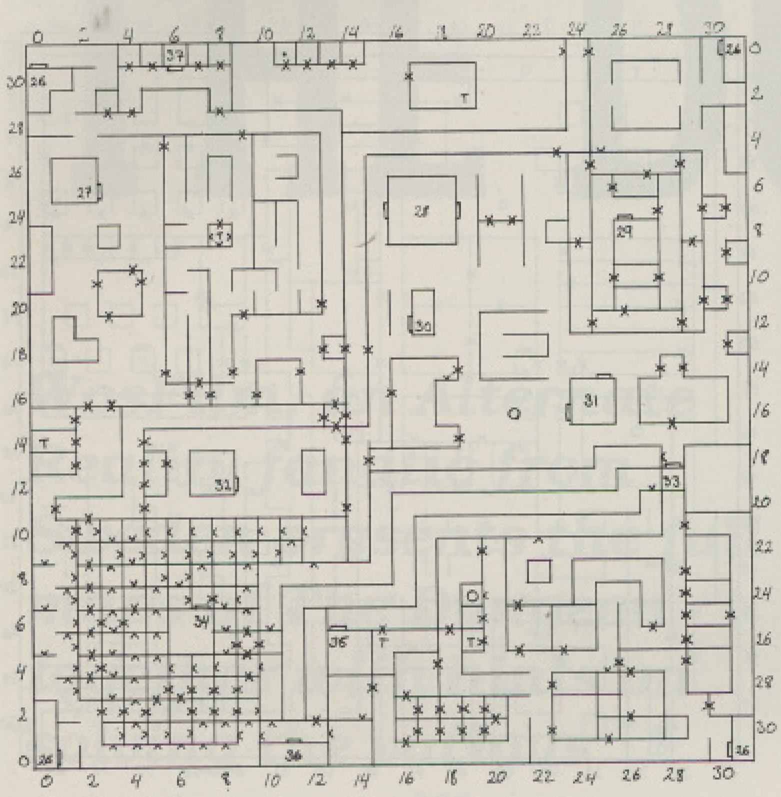
Section 3 - Level 1



mapped by WosFilm

21. Oracle of Wisdom
22. Dark Wizard's Guild
23. Troll King's Palace
24. Stairway Leading Down
25. Weapon Enchantress

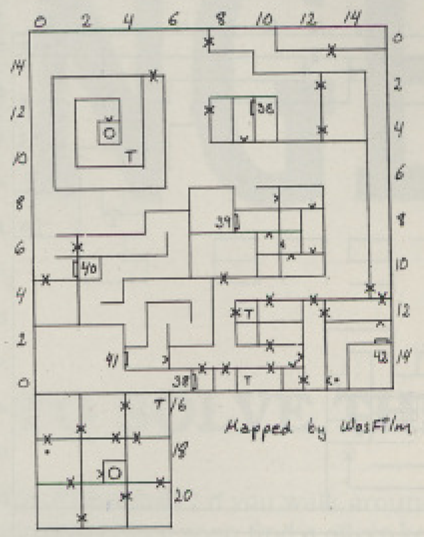
Section 4 - Level 2



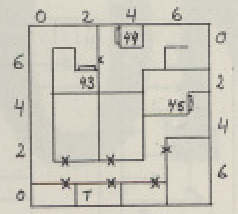
mapped by WosFilm

26. Stairway Leading Up
27. Paladin's Guild
28. Dwarven Smithy
29. Clothes Horses's Room
30. Stairway Leading Down
31. Cleanse Disease Fountain
32. Mercenaries' Guild
33. River Crossing
34. Lucky Potion Brewery
35. Undead King's Palace
36. Wilderness Entrance (requires Wilderness disk)
37. Arean Entrance (requires Arena Disk)

Section 5 - Level 3



Section 6 - Level 4



38. Stairway leading up
39. Death's Door
40. Fearsome Gargoyle
41. Great Dragon's Lair
42. Remove Fatigue Fountain
43. Elevator
44. Gateway To Revelation (requires Revelation Disk)
45. Alien Control Room

mapped by WosFilm

and you'll find yourself on level 4. Find the Aliens' control room and enter with the mirrored shield in hand (you'll find out why...). Use the elevator to go up again. Finished!

OTHER TIPS

Don't be greedy, kill for money or treasure or the like! That will soon make the Devourers coming, and that's not very funny! If you find yourself attacked by a surprising lot of Devourers, generate a new character!

There's a Mapstone at location (N28:E59,level 1). Works like a Location spell, very handy!

If you need a rather good weapon there is one at (N23:E60, level 1)

A crystal breastplate is at (N23:E8, level 2).

Do NOT go to (N57:E38). If you do, a Loadstone will fall onto you. You can never drop it, and it'll make you immobilized!

I'm not sure I remember the way through the "three-door-puzzle" starting at (N33:E18), but I think it is: middle door, left door, left door, middle and middle. Use the mapstone frequently to make sure you took the right door.

If you happen to have a character with an extremely good alignment, you're supposed to be able to get to the chapel sanctuary (otherwise you could easily place your character there with a little cheating. I did...). If you can, do pay it a visit. It's a really nice place! They give you a ... (surprise!)

Well that's all I'm giving you. I hope you've found some useful tips, and that you like this amazing game as much as I do (would it be possible not to like it?). Happy adventuring!



THE ALTERNATE REALITY CHARACTER EDITOR

WosFilm's Alternate Reality Character Editor is a machine language program not suitable publishing in the magazine but the fully working program is on this issue's disk.

The program is simple to use but you need to know a little about how AR stores its character data. Your character has a checksum hidden somewhere so if you change anything on the character (for example with a sector editor) the game won't load the character. To bypass this you can increase one byte only if you decrease another and vice versa, so that the checksum remains the same. The Character Editor always uses the bytes which tell how many experience points you have to have to increase the character's level, so there is always a limit to how much you can change a character.

In essence the AR Character Editor is nothing more than a highly specialised sector editor but it is the only safe way to enhance your character in Alternate Reality.

WosFilm

LASER INVADER

Colin Lennox presents a neat quickie - simple to type, simple to play but quite addictive!

This simple arcade game shows that you can write an addictive game with minimal graphics and in only eight lines of code. One big advantage is that it will only take you a short while to type it in!

Once up and running you will find a laser beam streaking towards the Earth and it is your task to precisely intercept it using the joystick fire button only. You must hit the approaching laser exactly on the end. If you fire too early and miss, the laser will bounce off your beam and you get another chance. If you are too late and miss, the invade lands and the game is over. The game is also over if the Invader makes it all the way to the right hand side of the screen and overruns your laser post.

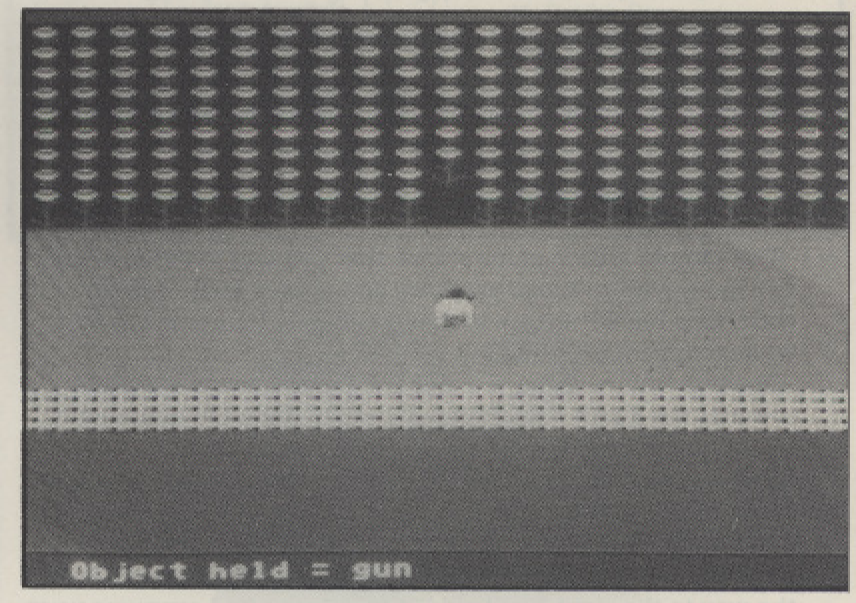
You receive points depending on how many shots you've had and what level you are on. The maximum score for a single hit on any level is 4,000 points.

At first the game looks too simple and the graphics are very basic, however it is quick to type in and is surprisingly addictive and frustrating.

Enjoy it!

```
EI 1 REM ********************************
UX 2 REM *       LASER INVADERS        *
RQ 3 REM *             by              *
XW 4 REM *        Colin Lennox         *
EC 5 REM * --------------------------- *
BH 6 REM * NEW ATARI USER  - FEB. 1992 *
EO 7 REM ********************************
NN 8 REM
CU 11 POKE 82,0:HI=0
RQ 12 GRAPHICS 15:SETCOLOR 0,12,8:SETCOLO
   R 2,12,8:SETCOLOR 1,9,15:SETCOLOR 4,0,
   15
QR 13 POKE 755,0:GOSUB 6000
NQ 14 ? "K↓    PRESS FIRE TO PLAY LASER I
   NVADER           "
RS 15 IF STRIG(0)=1 THEN POKE 77,0:GOTO 1
   5
NL 16 LEVEL=1:SC=0:A=9
WA 17 GRAPHICS 15:SETCOLOR 0,12,8:SETCOLO
   R 2,0,4:SETCOLOR 1,9,15:SETCOLOR 4,0,0
UY 18 SC2=1000*LEVEL:POKE 755,0:POKE 77,0
OD 30 GOSUB 6000
QE 62 NICK2=INT(RND(1)*3)+1
JC 64 IF NICK2=1 THEN NICK=1
DN 65 IF NICK2=2 THEN NICK=100
FC 66 IF NICK2=3 THEN NICK=110
YE 70 A2=INT(RND(1)*15*LEVEL)+15:A=A+A2:I
   F A<155 THEN 75
VW 71 A=INT(RND(1)*8)+5
ZJ 75 COLOR 1
EC 90 FOR I=0 TO A:PLOT I,3:NEXT I
LQ 110 FOR I=3 TO 159:COLOR 1:PLOT A,I
UG 115 SOUND 0,I,12,4
BB 120 COLOR 2:PLOT 157,161-I
DV 125 IF STRIG(0)=0 THEN XX=161-I:POP :G
   OTO 200
FX 130 NEXT I
OE 199 GOTO 310
WZ 200 SOUND 1,255,6,12:DRAWTO 1,XX:SOUND
    1,0,0,0
VL 201 IF XX-I<3 AND XX-I>-2 THEN 400
KX 208 IF XX<I THEN 300
TT 209 COLOR 1:F=XX-I-1:FOR C=0 TO F:SOUN
   D 0,C+I+1,12,4:PLOT A,C+I:NEXT C
FX 210 A2=INT(RND(1)*LEVEL*15)+9:A=A+A2
BX 216 SC2=SC2-(400*LEVEL):IF SC2<100 THE
   N SC2=100
CG 217 IF A>156 THEN 500
OX 218 COLOR 3:DRAWTO A,3
JH 220 COLOR 4:PLOT 157,157:DRAWTO 157,XX
   :DRAWTO 1,XX
LY 230 GOTO 110
JF 300 ? "K↓                  MISSED HIM!!"
HG 310 COLOR 1:FOR C=0 TO 159-I:SOUND 0,I
   +C,12,4:PLOT A,I+C:NEXT C
YC 318 FOR T=15 TO 0 STEP -3
JP 320 FOR I=220 TO 255:SOUND 0,I,12,T:SO
   UND 1,I,12,1:NEXT I
KS 325 NEXT T
WX 327 SOUND 1,0,0,0
IC 350 ? "K↓   THE INVADER HAS LANDED- GA
   ME OVER"
VX 357 FOR I=1 TO 650:NEXT I
YS 358 ? "K↓1UP      PRESS FIRE TO PLAY
     HI-SCORE↑"
UH 360 ? SC,,"  ";HI
QD 370 POKE 77,0:IF STRIG(0)=1 THEN 370
SI 380 GOTO 16
PL 399 END
XT 400 SOUND 0,0,0,0:? "K↓                S
   CORE ";SC2
PK 405 FOR D=1 TO 10
UE 407 SOUND 3,243,12,12
QH 410 W=INT(RND(1)*3)+1:COLOR W
NG 415 PX=INT(RND(1)*40)-20:PY=INT(RND(1)
   *40)-20
HW 416 IF (A+PX)>159 THEN PX=0
QX 417 IF (A+PX)<0 THEN PX=0
QJ 418 IF (XX+PY)>159 THEN PY=0
UZ 419 IF (XX+PY)<0 THEN PY=0
JJ 420 PLOT A,XX:DRAWTO A+PX,XX+PY
EE 440 NEXT D
LX 447 FOR I=12 TO 0 STEP -1:SOUND 3,243,
   12,I:FOR KK=1 TO 3:NEXT KK:NEXT I
XF 450 SOUND 3,0,0,0
NH 455 SC=SC+SC2
WS 456 IF SC>HI THEN HI=SC
DU 457 IF SC>=1000000 THEN SC=0
YA 458 IF HI>=1000000 THEN HI=0
LG 460 ? "K↓1UP↑ PRESS FIRE FOR NEXT INVA
   DER↓ HI-SCORE↑"
UO 462 ? SC,,"  ";HI
RM 470 POKE 77,0:IF STRIG(0)=1 THEN 470
DL 475 IF LEVEL<4 THEN LEVEL=LEVEL+1
HO 480 POKE 77,0:GOTO 17
XS 500 A=159:COLOR 3:DRAWTO A,3:SETCOLOR
   4,12,14
EK 505 SOUND 0,0,0,0:SOUND 1,0,0,0:SOUND
   2,0,0,0:SOUND 3,0,0,0
ZF 510 PRINT "K↓   LASER POST SURRENDERED
   - GAME OVER"
QQ 520 FOR I=0 TO 15:FOR J=0 TO 15:SETCOL
   OR 4,I,J:NEXT J:NEXT I
VV 530 SOUND 0,0,0,0
QK 540 SETCOLOR 4,0,0
OO 545 FOR I=1 TO 300:NEXT I
XW 550 ? "K↓1UP      PRESS FIRE TO PLAY
     HI-SCORE↑"
UW 555 ? SC,,"  ";HI
RK 560 POKE 77,0:IF STRIG(0)=1 THEN 560
SI 570 GOTO 16
US 3340 ? "K↓         PRESS FIRE TO PLAY"
OK 5000 GOTO 5000
YY 6000 COLOR 3
VV 6010 PLOT 0,0:DRAWTO 159,0:DRAWTO 159,
   159:DRAWTO 0,159:DRAWTO 0,0
AT 6050 RETURN
```

INDIAN GOLD



Bill Halsall's new arcade style adventure proves that the Wild West is as challenging as ever

You came to the West to make your fortune but so far it has been an endless cycle of card playing, drinking whisky, eating beans and shooting the numerous people who said you smelled.

However, your luck is about to change. It is rumoured that a cache of gold coins is hidden somewhere in Indian territory and the treasure is there for the taking - well almost! Just don't let the stories about the man-eating vultures and the terrors of the desert deter you. Okay, it could seriously damage your health but what kind of cowboy are you - lily livered? No, of course not! So, plug a joystick into port 1, get your spurs on and ride into the West.

Oh! Silly me! I forgot. You can't afford a horse yet, can you? How about a sponsored walk?

PLAYING THE GAME

Use the joystick to move the cowboy. To open doors, kill vultures etc. touch them whilst holding the correct object. To pick up or drop objects position the cowboy appropriately and press the joystick button.

Press the button to reincarnate after death, preserving the current object positions. Your enemies will reincarnate as well though, so keep your weapons handy!

If you find yourself in an impossible position press START to begin again with the objects in their original positions.

The game ends when you find the treasure. Press START to play again.

TYPING IT IN

Cassette and disk users should type in Listing 1, SAVE or CSAVE a copy, then RUN the program. The program will check each line of data and inform you of any errors. Correct any errors and RUN the program again until all errors are eliminated. When this is done answer the cassette/disk questions accordingly to create a boot tape or binary disk file.

Cassette users should load the boot tape created by firstly removing all cartridges and then turning on the computer while holding down the START key (XL and XE owners should hold down OPTION as well). Press RETURN and the tape will load and run automatically.

Disk users should clear Listing 1-from memory after saving and running it as above by typing NEW and pressing RETURN. Next, type in Listing 2 and save it on the same disk as the binary file created by Listing 1. RUN the Listing 2 program with the disk in the drive and the game will load and run automatically.

INDIAN GOLD

```
EI 1 REM ********************************
JK 2 REM *          INDIAN GOLD         *
RQ 3 REM *              by              *
UL 4 REM *          Bill Halsall        *
EC 5 REM * ---------------------------- *
BH 6 REM * NEW ATARI USER  - FEB. 1992 *
EO 7 REM ********************************
NN 8 REM
NA 14 REM  BOOT TAPE/OBJECT CODE FILE
           MAKER - BASED ON HEXSAVER
                BY NICK HIGGS
BK 16 REM
PD 20 DIM LINE$(96),A$(8192):LINE=990:CNT
   =-48:TRAP 100:GOSUB 200
LM 30 A$(1)="0":A$(8192)="0":A$(2)=A$
RG 40 LINE=LINE+10:CNT=CNT+48:READ LINE$,
   CHKSUM:? "CHECKING LINE ";LINE
IH 50 CHK=USR(1536,ADR(LINE$),ADR(A$)+CNT
   )
QI 60 GOSUB 300:GOTO 40
VH 100 IF PEEK(195)<>6 THEN ? "ERROR ";PE
   EK(195);CHR$(253):END
AL 110 ? "WORKED OKAY":TRAP 100
RX 120 ? "(D)ISK OR (T)APE":GOSUB 180:IF
   K=68 THEN 140
AK 130 ? "READY CASSETTE AND PRESS RETURN
   ":OPEN #1,8,128,"C:":GOTO 160
KV 140 ? "READY DISK AND PRESS RETURN":GO
   SUB 180:IF K<>155 THEN 140
HO 150 OPEN #1,8,0,"D:INDIAN.OBJ"
BA 160 ? #1;A$(1,6528):CLOSE #1:END
ZH 180 CLOSE #1:OPEN #1,4,0,"K:":GET #1,K
   :CLOSE #1:RETURN
MQ 200 FOR A=1536 TO 1658:READ D:POKE A,D
   :NEXT A:RETURN
IX 210 DATA 216,104,104,133,204,104,133,2
   03,104,133,206,104,133,205,169,0,141,1
   27,6,141
IZ 220 DATA 128,6,160,255,140,125,6,140,1
   26,6,173,126,6,201,47,208,11,173,127,6
QG 230 DATA 133,212,173,128,6,133,213,96,
   172,125,6,200,140,125,6,177,203,32,111
   ,6
IS 240 DATA 10,10,10,10,141,123,6,172,125
   ,6,200,140,125,6,177,203,32,111,6,24
ZH 250 DATA 109,123,6,172,126,6,200,140,1
   26,6,145,205,24,109,127,6,141,127,6,17
   3
MY 260 DATA 128,6,105,0,141,128,6,76,30,6
   ,96,201,58,144,4,56,233,55,96,56,233,4
   8,96
YL 300 DLNE=PEEK(184)*256+PEEK(183)
RV 310 IF LINE<>DLNE THEN ? "LINE ";STR$(
   LINE);" MISSING!":END
QZ 320 IF CHKSUM<>CHK THEN ? "ERROR IN DA
   TA AT LINE ";STR$(LINE):END
ZF 330 RETURN
ZD 1000 DATA 00330020272 0A9008D2F02A93C8D
```

```
ZD 1000 DATA 0033002027 20A9008D2F02A93C8D
```

```
```

INDIAN GOLD

```
   BD5C2885B22901F003207926A5B229,5306
KA 1340 DATA 02F00320A926A5B22904F003208B
   26A5B22908F00320902660A200A90085B4A014
   20A227C8C8C01CD0F760A2184C7B26,4920
QN 1350 DATA A000209A26A0024C9A26A90085B4
   A20A209027E8E012D0F860A02C209A26A02E4C
   9A26A9C48DC702A9FFA21F9D605B9D,5436
UC 1360 DATA E05BCA10F7E8A9EC9D00539D0054
   9D00559D00569DE056E8D0EEA012203627C01E
   D0F9A20A201627E012D0F9A6BABD5C,6107
ON 1370 DATA 2885B22901F003205627A5B22902
   F003207427A5B22904F003206027A5B22908F0
   03206A2760A9E885B4A01220A227A0,4600
MO 1380 DATA 1C20A227A90085B4A01420A227C8
   C8C01CD0F7E8E860A9E885B4A20820A227A212
   20A227A90085B4A20A20A227E8E8E0,5896
TT 1390 DATA 12D0F7C8C860A200201627E00AD0
   F960A212201627E01AD0F960A000203627C014
   D0F960A01C203627C030D0F960AD1F,5447
IX 1400 DATA D0C906F00AAD8402D0F4AD8402F0
   FB6020FD25A5B491CBC8E6B4A5B491CBC6B488
   60209027E8E6B4E6B4209027C6B4C6,7304
LN 1410 DATA B4CA60A9E885B4A00020A227C8C8
   C030D0F760A9E885B4A202209027E8E018D0F8
   60A2004CB327A2184CB327A00020C3,6224
OX 1420 DATA 27A0024CC327A02C20C327A02E4C
   C327204E338D2F0285CF205833202138206A2E
   A90620FF2CA9048D92208D9420209A,4169
ES 1430 DATA 21202E26A5BAC91E1008A202206D
   334C2728A201206D33A6BABD5C281006208F28
   4C402D2960F01E2920F014A007B9D6,4022
WL 1440 DATA 2499405B99485B99505B99585B88
   10EE2043264C352920B3264C35290024064C26
   288443CD258EC30A0D84858F060987,3987
WF 1450 DATA 090709808B2C05808080085078080
   808005808080A44580058484038B0B0B09A5BA
   0AAABDA3288DA128E8BDA3288DA228,4801
ZO 1460 DATA 4C00003D293D293D293D293D293D
   293E293D29732A3D29AE2A732A3D293D294229
   292C532B3D293D29C02B3D293D293D,2751
BV 1470 DATA 29342A962B3D293D29432AF12949
   2A992C3D294F2AED2CF129ED2C3D29642A6A2A
   5B2AD82C3D29ED2C3D2946294A293D,3859
AD 1480 DATA 29E92B3D293D293D29AD0AD2291F
   38E90C90F61869020AA8AD0AD2290F38E90590
   F61869010AAA4CA227AE3329AC3429,4339
RW 1490 DATA 4CA227000020402DA93F8D2F0260
   A903D00AA902D006A904D002A90185CF20B326
   A900A899005399E053C8D0F7A007B9,4893
OS 1500 DATA CE2499805B99885BB9D62499905B
   99985BB9E92999B05B99B85B99C05B99C85BB9
   DE2499A05B99A85B8810D3A97285B4,6618
FR 1510 DATA A206A00D209027C8C8C023D0F7E8
   E00CD0F0A97085B4A20CA00E209027C8C8C022
   D0F7E8E012D0F0A97485B4A017A20E,6671
WI 1520 DATA 209027E8E012D0F8A97685B4A20F
   A01020A227A01E20A227A97A85C8A6CFBD6D52
   F0032023314C3529FFFFEBEBEBEBFF,6365
GJ 1530 DATA FFA91C20FF2CA5BBC905F005A203
   206D33A01FB9EE2499605B8810F7A9EC85B4A9
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VU 1540 DATA 2A2AA218202A2A4C3529A00220A2
   27A02C4CA22720D22720DC2720E62720A9264C
   F12920D2274C642A20D2274C5E2A20,3926
FH 1550 DATA DC272090264CF12920D22720D727
   20E6274CF12920DC274CF12920D727208B264C
   F129A91620FF2C204326A9C08DC702,4921
JV 1560 DATA A900A03F99605B8810FAA01FB90E
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   F085B4200929C6BDD0EE4C352920B3,5639
GM 1570 DATA 26A00FB9CE2499805BB94A259990
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DD 1590 DATA D0F7C8E6B4E8204B2BC8C023D0F7
   A97085B4A01CA20E204B2BE8E013D0F8A97A85
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QL 1600 DATA 2BE6B4A213204B2B4C352920FD25
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   5B8810F7A97085B4A202A01620A227,5398
FI 1610 DATA 2058334C352905151DD535D51505
   00404040404000000505050501030 30F405050
   54555430F020B326AD7552D01FA01F,3079
ZC 1620 DATA B99A2599805B8810F7A97085B4A2
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   B326A01FB95A2599805B8810F7A970,5642
QM 1630 DATA 85B4A20EA02820A227A97385B4C8
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   99805B8810F7A9F085B4A200A00020,5348
JK 1640 DATA A227C8C8C030D0F7E8E009D0F0A2
   06A01820A227A208AD7652F002A9F085B420A2
   27A9E285C84C352920B326207B2CA0,6040
EY 1650 DATA 1FB97A2599805B8810F7A201A92A
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   6F2CD0F4E8CE6E2CEE6F2CAD6F2CC9,5525
ZX 1660 DATA 4BD0E3AD7252F00320EB314C3529
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GJ 1670 DATA E6CCA5CCC956D0EB6020B326A00F
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   FA203C28A9FF8D40534C3529AD0AD2,5018
TG 1690 DATA 2903AABDFB2C85BA4CF129221C21
   2285B385B985C860A019B9262D998C52A91799
   AA52A90C99C8528810EDA91A8DB352,5590
ZZ 1700 DATA A90E8DD152600001050B02070304
   090A0D1113141927 1F28292B2E3031321D00A2
   0186C9BD8C52C5BAD0108A0A0A85B4,3260
ZT 1710 DATA BDAA52A8BDC852AA20A227E6C9A6
   C9E01AD0E160006E6F7468696E670173706164
   6502736565647303626561647304 62,5495
KU 1720 DATA 6F6174056A616D006A6172067761
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   6B697465096B65790A626F6E650B70,4248
KJ 1730 DATA 6970650C77656564006B696C6C65
   720D6178650E63726174650F776869736B7910
   636861697211647 96E616D69746512,4381
FO 1740 DATA 6B6E696665136C6173736F14626F
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   177761746572006469766 96E657218,4342
UG 1750 DATA 70696E196B65791A205E2EA200BD
   512E9D0652E8E00DD0F5A4BB8C6E2CC88C6F2C
   A000B9642DCD6E2CF004C8D0F560C8,5706
PF 1760 DATA E8B9642DCD6F2CF0079D0652E029
   D0EF602F626A6563740068656C64001DA00098
   990052C8C030D0F860A2008A9D005C,5319
CG 1770 DATA 9D005DE8D0F760A6B1A000844D98
   9DF85B9DF85CE8C8C024D0F4A200A4B1BDDA25
   99005CBDED2599005DC8E8E010D0EE,7021
CF 1780 DATA ADD92ED02AEED92EADD82E49018D
   D82E88A202ADD82EF00DBDE72599005C88CA10
   F64CCF2EBDEA2599005C88CA10F6A5,6188
YM 1790 DATA B08D00D08D01D0600000A9058D1C
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   20132FAD78022902D003201B2FAD78,4241
EQ 1800 DATA 022904D003202B2FAD78022908D0
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JP 1810 DATA 4C382FA5B01869048D432FA5B18D
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   442FC910F034C9E0F047A5CFF00AAD,5524
EE 1820 DATA 442FC990D0034C8B2F4CCA2F60C6
   BA20F027A9D085B08D432F4C772EE6BA20F027
   A92C85B08D432F4C772EA5BA38E905,5621
HJ 1830 DATA 85BA20F027A9D885B18D442F206A
   2E4C772EA5BA18690585BA20F027A5CFF00DA9
   7C85B08D432FA9A885B1D002A91885,5786
QH 1840 DATA B18D442F206A2E4C772EAD432F38
   E9204A4A8D3429AD442F38E9184A4A4A8D3329
   AE332920FD25AC3429B1CB85B5C8B1,4828
DQ 1850 DATA CB85B69818692FA8B1CB85B7C8B1
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   432F85B08D00D08D01D0AD442F85B1,6356
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   5220FD3020402DA90385BFA5BBF021,5448
RV 1890 DATA AAADE1309DAA528D3429ADE2309D
   C8528D3329A5BA9D8C52A5BB0A0A85B4202A29
   AD785285BB20182E60A9008DE03060,5479
GE 1900 DATA 000000A5B18D442FA5B08D432F20
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   3429A90085B44CA227A2008E2231B5,4789
GY 1910 DATA B5297F186990B006E8E004D0F260
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FA 1920 DATA B5C974D00D9D6E52E003F0072023
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   A215BD5C379D0652CA10F74C3E360D,4474
WK 1930 DATA 091907A5BAC90AF02DC90FF057C9
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   C928F005C918F076604C2D324C6B32,5453
ZA 1940 DATA 4C7D324CB832A5BBC910F00DC90E
   D023A5B5C9FFD01D4CBF31A5B5C9FED014A900
   8D785220E330CEE230CEE23020AC30,6256
MM 1950 DATA 20CA2F60A5BBC911D0F9200A31AD
   2231F0F120EB31201B2F4C3138A014A20A2003
   31E8E014D0F8C8C01BD0F1A5BAC90F,5638
EP 1960 DATA F0068C74524C0B328C725220402D
   60A5BBC903D0F9200A31AD2231F0F1A20AA01E
   200331E8E011D0F88E755260200A31,5038
AZ 1970 DATA AD2231D007205E2E20182E60205E
   2EA01FB94B329906528810F760266164656400
   6E6F7465007768696368007265616 4,4067
PR 1980 DATA 7300350000263200232 12CA5BBC9
   17D00BA01FB92A2599805B8810F760AE8E52E0
   10D033A202A01620033120E330A200,4281
NU 1990 DATA 8E8E52A96485B5206930A01FB920
   590A99205B8810F6AECA52ACAC52200331CAA9
   7085B420A22760A5BBC901D01CA5B0,5539
JL 2000 DATA C9BCD016A5B1C998D010205E2EA0
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   6F6E65010034686500676F6C640069,5005
OX 2010 DATA 7300796F75727301A5BAC90FF0DC
   A513D0D88D7252E613A90A85C3602058332021
   38A9BC8D02D0A91E8DC202A9A88D01,5533
WA 2020 DATA D2AD0AD22907AA8D00D2BD46338D
   A85EA218BD025E9D005EE8D0F7ADC202491E8D
   C2024CF2380102040808102040A203,4777
ZU 2030 DATA A90095B5CA10FB60A9008D7B528D
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   03F0278E7B52BD8052D01FE000F01B,5741
LH 2040 DATA BD9C338DC2028DC302AD0AD2295F
   8D7C52E003D0034CF4344CDE3460000228B800
   00AE7B52F0F4BD8052D0EFAD7C52D0,5725
YQ 2050 DATA EA207634AD7B52C903F00BA5BED0
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   690885B2B9E8339D085EE8C8C4B2D0,5772
TE 2060 DATA F4ADA0338D02D0600040A0885C3D
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   0101113ABC2800206033AEA133AD7E,3724
GV 2070 DATA 52A818691085B2B936349D005EB9
   46349D005FE8C8C4B2D0EEADA0338D02D01869
   088D03D0600001031219 3D3F7F7D7D,4927
LG 2080 DATA 6C6444440E1580C0E0A4CCDEFEFF
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   1814040E1580C0E8ACCCDCFCFCDCDC,5359
PT 2090 DATA 9C8C14103854A5B138EDA133F017
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   058DA133A5B038E904EDA033F02590,5422
GK 2100 DATA 12EEA033EEA033EEA033AD7D5229
   088D7D5260CEA033CEA033CEA033AD7D520910
   8D7D5260AD7E5249208D7E52AD7D52,5553
UQ 2110 DATA 49088D7D52AD7C52F003CE7C5260
   20EB348DA03320EB348DA13360AD0AD2294018
   69CC60AD0AD2297F69408DA033AD0A,5190
EF 2120 DATA D2297F69408DA13360A5BAC918D0
   3DA5BBC903F037AD7552D032AD7A52D02EA5B0
   C958D027205833A9148D7A528DC202,5872
WJ 2130 DATA A90C8DC302A003B96735AA205635
   8810F6A9948DA0338D02D08D03D060ADA03338
   E9024C4335A9039D005FE8E89D005F,5241
IN 2140 DATA CAA9FE9D005E606F7F8F9FAD0CD0
   0D0DD0290CF016ADC202C902F010C928F01FC9
   B8F02EC914D0034C443660A5BBC90A,5754
XU 2150 DATA D033EE815220E0382058338D1ED0
   60A5BBC915D04DEE825220E0382058338D1ED0
   60A5BBC905D059EE835220E0382058,5671
FJ 2160 DATA 338D1ED060204B38205836A218BD
   D9359D0652CA10F74C3E3627756C7001003468
   697300767 56C747572650062697465,4374
BH 2170 DATA 7301204B38205836A20ABD06369D
   0652CA10F74C3E3628656E007065636B656401
   204B38205836A218BD25369D0652CA,3898
GU 2180 DATA 10F74C3E362D656574003363 6F72
   70696F000D002865007374696E677301207E27
   4C2830204B38205836A207BD8B379D,3747
BP 2190 DATA 0652CA10F74C3E36A9008D785220
   E33020AC30206A2E8D1ED0205E2E60A5BAC910
   D023A5B1C998D0F3A6BBA9009D8C52,5505
OA 2200 DATA 85BB204B38205836A207BD32379D
   0652CA10F74C3E36C908F004C90BD029200A31
   AD2231F05BAD432F85B0AD442F85B1,4808
EL 2210 DATA 20772E204B38205836A219BD3A37
   9D0652CA10F74C3E36C913D01C200A31AD2231
   F02E204B38205836A207BD54379D06,4011
GT 2220 DATA 52CA10F74C3E36C92FD017CD8E52
   D012ADAC52C918D00BADCA52C908D0048D7652
   60A5C8C91CD006A5BBC906D006A900,5809
IJ 2230 DATA 8D7F5260EE7F52AD7F52C969D0E3
   204B38205836A218BD72379D0652CA10F74C3E
   3624726F776E656401226F67676564,5043
ZQ 2240 DATA 00646F776E0100003065726D616E
   656E746C79012C796E636865640122757267 6C
   61727300776 96C6C0062650073686F,4028
IG 2250 DATA 7401246568796472617465640069
   6E00746865006465736572740135 6D00646561
   6401A5BEF018C6BEA6BEBDB0378D02,4778
PN 2260 DATA D2BDB6378D03D2E000D004A90685
   BE6000100020003000240044006 4A5BFF010C6
   BFA6BFBDD1378D04D2BDD4378D05D2,5298
DI 2270 DATA 60003C3C00A8A8A5C4F013C6C4A5
   C44A4AAABDEF378D00D2BDF2378D01D260001F
   08002848A5C5F00FA9148D00D2C6C5,5716
HT 2280 DATA A5C518695F8D01D260A5C6F013C6
   C6A94038E5C68D02D2A5C64A1869A08D03D260
   A900AA9D00D295BC95C0E8E008D0F4,6597
CB 2290 DATA 60202138A91F8D00D2A23C8A4A4A
   8D01D220F238CA10F420213860202138A6B1A9
   008D9D38AD9D381869108D9E38AD9E,4841
PU 2300 DATA 388D00D2A9A88D01D2AD9D388D02
   D2A9A68D03D2209F38CE9E38CE9E38AD9E38CD
   9D38D0DCA9009D005C9D005DE8AD9D,6074
AI 2310 DATA 381869088D9D38D0BC2021386000
   00A9038DB538A9FF8DB438CEB438D0FBCEB538
   D0F160000020933720D73720093520,5062
GD 2320 DATA C83820C83820C83820F238200935
   20BC3720FA3820F53720093860A90C85C46020
   2138A92085C6A90085B585B685B785,4900
IT 2330 DATA B860A9018D1C024CDF2EA6C3F017
   8E06D2AD0AD22907690 78D07D2E8E02ED005A2
   008E07D286C36020AB20A9FF8D1C02,5350
IM 2340 DATA AD1C02D0FB20062D202830A9218D
   6F0220772EA9058D1C02206B35206D3620E52E
   A5CAD024205230203231 20A23320A2,3900
LV 2350 DATA 3320F83220C53420B638AD1FD0C9
   06F0B7AD1C02D0FB4C3339200C33202133AD1F
   D0C906F0A24C6C3900000000000000,4293
```

```
IO 10 REM  LOAD AND RUN ROUTINE
             FOR INDIAN GOLD
QX 20 OPEN #1,4,0,"D:INDIAN.OBJ"
OC 30 POKE 850,7:POKE 852,0:POKE 853,32:P
   OKE 856,255:POKE 857,255
SN 40 X=USR(ADR("hhh[illegible]LV[illegible]"),16)
BQ 50 CLOSE #1:X=USR(8232)
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THE A-Z OF GOLDEN (AND NOT SO GOLDEN) OLDIES continued

POLE POSITION ★ ★ ★
arc Atari 1984 (r) mid

Creditable conversion of the very popular car racing arcade game. Your battle is against the clock as you try to qualify for the main race. High quality scrolling and realistic sound effects abound. In the heady days of 1984 people (me included) had to fork out £30 for the 16K cartridge version. It is now available for a much more sensible price.

POPEYE ★ ★
plat Parker Brothers 1983 (r) scarce

Average platform game in which you must help Popeye collect Olive's hankies whilst avoiding big, mean Bluto. Spinach makes an obligatory appearance of course. Graphics are on a functional level, but the music is worth a mention.

THE KEY

Star Ratings:-

★	poor
★ ☆	poor/mediocre
★ ★	mediocre
★ ★ ☆	mediocre/good
★ ★ ★	good
★ ★ ★ ☆	good/excellent
★ ★ ★ ★	excellent

arc	arcade game	(t)	game is available on tape
plat	platform game	(d)	game is available on disk
sim	simulation	(r)	game is available on ROM cartridge
strat	strategy game		
adv	text adventure	bud	budget priced game (£1.99-£2.99)
gr adv	text adventure with pictures	mid	mid-priced game (£3.00-£8.99)
frp	fantasy role playing game	full	full priced game (£9.00+)
arc/adv	arcade game with puzzle solving/mapping etc.	imp	game is (or was) only available on import from America
		scarce	no price range available, because game is very difficult to get hold of

The price and format (tape, disk etc.) ranges quoted are intended as guidelines only. Games which were originally available on tape and disk can now be found on cartridge and vice-versa. This can also alter the price of the game in question.

POWERDOWN ★ ★ ★ ☆
arc Mastertronic 1987 (t) bud

This game is hard to classify. You have to shoot and dodge things, manipulate items and work out problems. Once you reach the top of the vertically scrolling screen, and have avoided all the hazards and nasties along the way, you will meet the being who has directed all the flak at you. It turns out to be a giant cat! How you eventually dispose of him is one of the best puzzles ever devised on computer. Truly a gem of a budget game.

PREPPIE ★ ★ ★
arc Adv. Int./Americana 1982/1987 (t) bud

'Preppie' is a derivative of 'Frogger' only this time you're a young kid out to retrieve golf balls. It's simply a matter of guiding Preppie to the top of the screen, avoiding the mowers and other hazards, and then returning back the way way you came. Brilliant four-channel music and colourful graphics make this an entertaining family game.

QUEST OF THE SPACE BEAGLE ★ ★ ☆
arc Avalon Hill 1984 (d) imp/scarce

This is the sequel to 'Jupiter Mission 1999' and it's basically more of the same. The different sequences range from a 3-D 'Star Raiders'-style shoot out to an isometric 3-D maze game. A rarely-seen programming technique is used called rapid page flipping (between different screens and graphic modes). The side effect is flickering, which may cause you to become bog-eyed after a while.

RACING DESTRUCTION SET ★ ★
arc Electronic Arts/Ariolasoft 1986 (d) mid

This attempt at slot car racing on computer tries very hard but ultimately fails. There are options galore including different vehicles, tracks, weaponry and scenery. There is also a track construction option. The game is weak in the graphics department because memory is used for the wealth of game options.

RAID OVER MOSCOW ★ ★ ☆
arc Access/U.S. Gold 1986 (t,d) mid

Forget about about the dubious subject matter and enjoy this quite good arcade game. There are many different stages, among them a Zaxxon type assault on enemy bases, a bazooka attack on the Kremlin and a boomerang fight with security robots. Graphics and sound are okay but could have been better.

RAILS WEST ★ ★ ★
strat S.S.I./U.S. Gold 1983/1987 (d) full

Quite complex strategy game about the building of the mid-west American railroad in the mid 19th Century. Most wheeling and dealing operations are input from screens filled with statistical information. The only graphic screen is a nicely drawn and continually updated map of the railroad system. Good fare for those people who like games with substance.

RAINBOW WALKER ★ ★ ★
arc Synapse 1983 (t,d) imp/scarce

An altogether colourful, playable and extremely enjoyable game from underrated Synapse. This is a 'Q-Bert' variant, but with better graphics and gameplay. You have to colour in each of the squares on your rainbow and avoid nasties of various sorts (who also want to make your rainbow grey).

compiled by Kirk Ruebottom

RALLY SPEEDWAY ★ ★ ★ ☆
arc Adventure Int. 1983 (r) mid

This is a car racing game for one or two players (best with two) containing variable parameters such as maximum speeds, road conditions, acceleration speeds, and even an option to construct your own courses. Your view of the game is from above and the screen scrolls smoothly in all four directions. Easily one of the best two player games ever.

RED MAX ★ ★ ★
arc Codemasters 1986 (t) bud

Nice graphics and music lift this game out of the 'ordinary' category. A four-way scrolling view of a planet surface and a character on a bike provide you with the main game screen. It's up to you to travel about and defuse all the mines planted by the renegades. Colliding with any structure results in the loss of a life.

RED MOON ★ ★ ★
gr adv Level 9 1985 (t) scarce

A fantasy adventure with reams of text and hundreds of illustrated locations, all crammed into 32K. Sounds to good to be true? Well, the graphics are not spectacular (although I have seen worse in many disk-based graphic adventures) and sometimes it's hard to get your commands understood. 'Red Moon' was state of the art in '85 and still remains a good adventure.

RESCUE ON FRACTALUS ★ ★ ★ ★
arc Lucasfilm/Activision 1985 (t,d,r) mid

Probably the only Atari game about which there is nothing more to be said. In any discussion of the best Atari games you must include this. Essential for any collection.



RIVER RESCUE ★ ★
arc Creative Sparks 1986 (t) bud

You have to guide your boat around rocks and crocodiles and pick up scientists in an attempt to deliver them further downstream. Your view of the game is from above, and the screen scrolls horizontally at a furious rate. Strong on playability but whether it holds any long-term interest is doubtful.

ROBIN HOOD ★
arc English Software 1983 (t) scarce

In this two way horizontal scroller you're Robin Hood (a poorly defined one colour sprite) who has to shoot the Sheriff's men (other poorly defined one colour sprites) and grab the gold which appears now and then. The background scenery and scrolling is well done, but the designers forgot about gameplay which is virtually non-existent.

ROSEN'S BRIGADE ★ ☆
arc Datasoft 1983 (t,d) mid

A rather basic shoot 'em up with primitive graphics. Your little plane can somersault, dive and climb within the scrolling battlefield, and in your way stand helicopters, planes and aircraft carriers. Average in '83, dated in '91.

S.A.M. (SOFTWARE AUTOMATIC MOUTH) ★ ★ ★ ☆
ut Don't Ask Software 1982 (d) full

A speech synthesiser on a disk with speech quality surpassing that of many hardware add-on devices. Tone, pitch, speed and duration of S.A.M. can be altered and he will repeat back to you any words you type in. You can also use S.A.M. in your own programmes. An endearing piece of software, a year or two ahead of its time.

SANDS OF EGYPT ★ ★ ★
gr adv Datasoft 1982 (d) scarce

An early disk based graphic adventure with a limited vocabulary and a small number of locations, but highly enjoyable nonetheless. The pictures are attractive and the puzzles are well thought out. Especially recommended for first-time adventurers.

SAVAGE POND ★ ★ ☆
arc/strat Starcade 1983 (t) scarce

Highly original game which could also serve as a lesson in Biology. You have to guide a tadpole through his various evolutionary stages. Dragonflies, spiders and radioactive waste are some of the hazards you will encounter, so you have to be nifty on the joystick. Unique subject matter and nice graphics are plus factors for 'Savage Pond'.



SCOOTER ★ ★ ☆
plat Americana 1986 (t) bud

This budget platform game is set throughout eight scrolling levels and features your character collecting things and avoiding nasties (yes, very original, I know). An element of 'Pacman' is also thrown in because you can destroy the baddies if you collect certain items. Worth checking out if you like platform games.

SCRAM ★ ★
sim Atari 1982 (t) scarce

Fancy yourself in control of a nuclear power station? 'Scram' features a graphical display of the power station's main features, and by using a joystick you can start pumps, open and close valves, do repairs etc. It can get quite complex. The biggest surprise about this one is that it was written in Basic!



SCREAMING WINGS ★ ★ ★
arc Red Rat 1986 (t,d) mid

This is essentially a conversion of the arcade hit, '1942'. You control an aircraft over vertically scrolling screens, blasting everything that moves. It could be argued that a lot of shoot 'em ups are very refined 'Space Invaders'! This one's no exception, although it is probably more fast and furious than most. Good sound effects enhance the game's atmosphere to a large degree.

SCROLLS OF ABADON ★ ★ ☆
plat Fanda Software 1984 (t,d) imp/scarce

A four-way scrolling angled 3-D 'Pacman' derivative would be one way of describing this little-seen piece of software. Well programmed and presented, with gameplay a little on the tough side. It's a shame that this was never officially released in Britain.

SEA BANDIT ★☆
arc Datasoft 1982 (t,d) mid

One of a selection of particularly uninspiring early Datasoft titles which somehow got re-released over here in 1986. The 'hunting for lost gold' scenario cannot disguise the fact that this is a thinly disguised 'Breakout' clone. Datasoft later went on to better things.

SEA FOX ★★☆
arc Broderbund 1982 (t) scarce

'Sea Fox' is a shoot 'em up set underwater. You have a side on view of your submarine and the enemy infested ocean. You must eliminate a certain number of the enemy to progress to the next level. Nothing new here, but it is carried out with a certain degree of professionalism.

SEARCH, THE ★★☆
arc/adv C.S. Software/Red Rat 1983/1987(t,d) mid

Although written in Basic, this is a thoroughly playable multi-screen fantasy arcade adventure. A redefined character set is used to depict trees, marshes, buildings etc. as you guide your character across each screen. It resurfaced not so long ago as part of a Red Rat compilation.

SEVEN CITIES OF GOLD ★★★☆
strat Electronic Arts/Ariolasoft 1984 (d) full

A huge game set in the 16th Century in which you take on the role of a Spanish explorer/conquistador/missionary. Trading plays an important part as does exploration of the 2700 scrolling screens. The gameplay screen consists of a small window in the centre surrounded by text information concerning your army, food and amount of gold traded with the natives. This is an enthralling piece of software, with far too many features and subtleties to mention here. Don't miss this one by any means.

SHADOW WORLD ★★☆
arc Synapse 1982 (t) imp/scarce

A 'Defender' style game for one or two players. The two player version is unusual in that it features a split screen view of the proceedings. In addition to this 'Shadow World' contains smooth scrolling and fast action.

SHAMUS ★★
arc Americana 1986 (t) bud

In a nutshell, this game has you wandering around hundreds of rooms, blasting everything you meet and collecting keys to open up new rooms. 'Shamus' was almost an early 'Gauntlet' except there are no scrolling screens or two player option. Colourful but ultimately boring. Shoot 'em up fans may like it.

SIDEWINDER ★☆
arc Futureware 1986 (t,d) mid

We are promised something special from 'Sidewinder' when we see the ace loading and title screens, but the game ultimately fails to deliver. In this 'Scramble' clone you travel from left to right across a scrolling cavern backdrop of traps and barriers. Gameplay is far too tough. It can even be difficult just getting airborne! As a ho-hum bonus there is a cavern construction set so you can create your own screens.

SILENT SERVICE ★★★★
sim Microprose 1985 (t,d) full

The ultimate submarine simulation for your machine, striking the right balance between technical detail and playability. Game screens include map displays (zoomable), conning tower, bridge, binocular view, periscope, damage reports, Quartermaster's Log etc. Graphics are great and sound is atmospheric. 'Silent Service' oozes class in just about every department.

SIX GUN SHOOTOUT ★★
strat S.S.I. 1983 (d) scarce

This is a tactical simulation of classic gunfights of the Wild West. It plays like a wargame, so cannot be recommended to those who like action games. 'Shootout' is one of the lesser S.S.I. efforts. The details and intricacies are here, but the graphics are even worse than usual. Does this type of scenario translate well to a computer wargame format anyhow ?

SLAVE, THE ★
ut (Mail Order Only) 1986 (d) scarce

This is an ineptly designed program, purporting to be an adventure writing system. 'The Slave' features one of the most badly written manuals ever, indeed you may find it impossible to get an adventure to work that was designed with this system. Why haven't we seen any adventures on the market that were designed using this?

SNOKIE ★★
arc Funsoft/U.S. Gold 1984 (t) scarce

'Snokie' is simply a jumping game set across a horizontally scrolling landscape. Your jumps will require perfect timing and manoeuvring for you to progress to the next level. Some nice graphical touches include a winking skull which appears whenever you lose a life.

SNOOKER ★★☆
sim Thorn E.M.I. 1984 (t) scarce

One of the earliest attempts at computer snooker. You are limited to aiming and shooting with variable power in this one (no screw, stun, topspin or side). The graphics are good (at least the table is green, unlike other computer snooker games). However, the definitive snooker game has yet to appear.

SNOWBALL ★★☆
adv Level 9 1985 (t) scarce

A science fiction text adventure with over 7,000 locations! (Unfortunately a lot of them are identical). You are on a spaceship, woken from cryogenic suspension, and have the task of trying to save the lives of the other two million frozen colonists on board the ship.

SOCCER ★★★
sim Thorn E.M.I./Creative Sparks 1982/1986(r,t) bud

An early attempt at putting soccer onto computer, and it turned out quite well. Graphics are okay and playability is strong. There are many variables you can set at the start, such as number of players, player versus computer or even two players versus computer. If you have an old Atari 800 and four joysticks then you can all play against the computer, or against each other in teams of two!

SOLO FLIGHT ★★★☆
sim Microprose 1984 (t,d) scarce

A brilliant flight simulator programme, one that will appeal to simulator buffs as well as the less serious games player. Your view of your single engine aircraft is unusual in that it is taken from slightly above and behind the aircraft. You still have all the dials and indicators on screen though. Graphics, sound and depth of the game are of a high quality.

SOLO FLIGHT 2 ★★★★
sim Microprose 1986 (t,d) full

This sequel is essentially the same as the original but with a few enhancements. You now have a re-designed cockpit controls display, a map which records your flight paths, and an onboard instructor who guides you in a dialogue box at the bottom of the screen. If you have 'Solo Flight 1' then this sequel is not really worth buying, but if you don't then I can wholeheartedly recommend it.

SPACE EGGS ★☆
arc Sirius Software 1981 (d) scarce

This is a 'Galaxians' type shoot 'em up and nothing more. In 1981 it was considered to be good, but in this day and age don't bother.

SPACE INVADERS ★★
arc Atari 1980 (r) scarce

Yes, it's a no-frills conversion of the father of all shoot 'em ups. You may want to get this for curiosity value, but don't expect too much.

SPACE SHUTTLE ★★☆
sim Activision/Firebird 1984/1987 (t) bud

This looks and plays better than the earlier, awful Microdeal game of the same name. The satellite scenario remains the same, but in this version things are a little easier to get to grips with. The only drawback is some really lacklustre sound effects.

SPACE SHUTTLE ☆
sim Microdeal 1983 (t) scarce

Graphically and sonically weak attempt at a space shuttle simulation. Five separate phases make up the game. You have to launch, dock with a satellite and bring it back to earth. This is a fine example of Microdeal's humble origins, before they entered the 16-bit world.

SPACEHAWK ★★
arc Tynesoft/Microvalue 1987 (t) bud

Reasonable shoot 'em up which formed part of Microvalue's 'Four Great Games Vol.2' compilation. We've seen all this before in countless 'Uridium' clones. Graphic detail needed a little brushing up , but the scrolling is some of the fastest you'll ever see.

SPECIAL DELIVERY ★☆
arc Creative Sparks 1986 (t) bud

You play the part of Santa Claus and guide him on his sled through horizontally scrolling scenes, picking up presents and avoiding hazards. Once you've collected a certain amount you must try and negotiate your way down a chimney. Graphics are not up to much, but there is a nice musical jingle playing throughout.

SPEEDSCRIPT ★★★
ut Compute! Books 1985 scarce

Not a piece of software as such, but a book. You simply have to type in its contents and you will have a first class word processor! The typing of the listing may put a lot of people off, but it works out quite cheap when you consider the cost of 'ready to run' word processors.

SPELLBOUND ★★★
arc/adv Mastertronic 1986 (t) bud

Classy budget game with tons of rooms to explore and puzzles to solve. You control a cute little sprite called Magic Knight who interacts with other characters and his surroundings by a process called 'Windimation'. This involves opening windows with the joystick and selecting a relevant command from those which appear in the window. 'Spellbound' is an archetypal arcade adventure, neatly designed and fun to play.

SPIKY HAROLD ★★☆
arc/adv Firebird 1987 (t) bud

Harold is a hedgehog and you must guide him through fifty seven locations and find all the food therein. The nasties to avoid this time out take the form of dragonflies and other insects. There is a high standard of animation and graphical detail, but the game is too difficult and short on substance to sustain any lasting interest.

SPINDIZZY ★★★☆
arc/adv Electric Dreams 1987 (t,d) full



Proficiently programmed conversion of this 'Marble Madness' type game. Controlling an inertia-ridden ball-bearing up ramps, down slides, in lifts, across chasms etc. can be extremely frustrating as well as absorbing. There are hundreds of rooms to be explored (each of which can be viewed from four different angles). Graphics, sound and playability are of the highest standard.

SPITFIRE 40 ★★☆
sim Mirrorsoft 1987 (t,d) full

There are plenty of worse combat/flight simulators for the XL/XE, but one gets the feeling that Mirrorsoft could have tried a little harder with this one. Screens include the obligatory 3-D 'out of the cockpit' view, maps of Southern England and a control panel from which you can adjust speed, flaps, pitch and bank etc. The plane supposedly handles like the real thing (although it does seem a little easy blasting Gerry from the sky).

SPRONG ★★★☆
arc Bignose Software/Red Rat 1985/1987(t,d) mid

One way to describe 'Sprong' would be 'a colourful fifty screen extravaganza'. Another way would be 'an extremely frustrating hopping game featuring a man on a whining pogostick'. One thing it most certainly has is very nice graphics. Fun to play as well.

SPY HUNTER ★★★
arc U.S. Gold 1984 (t,d) mid

This one puts you in a car armed (eventually) with four different weapons and gives you an overhead vertically scrolling view of your battles with the other vehicles on the road. Enemy cars can ram you or use their spiked wheels to burst your tyres. You may also find yourself in a speedboat at certain times. A well implemented conversion of the exciting arcade game.

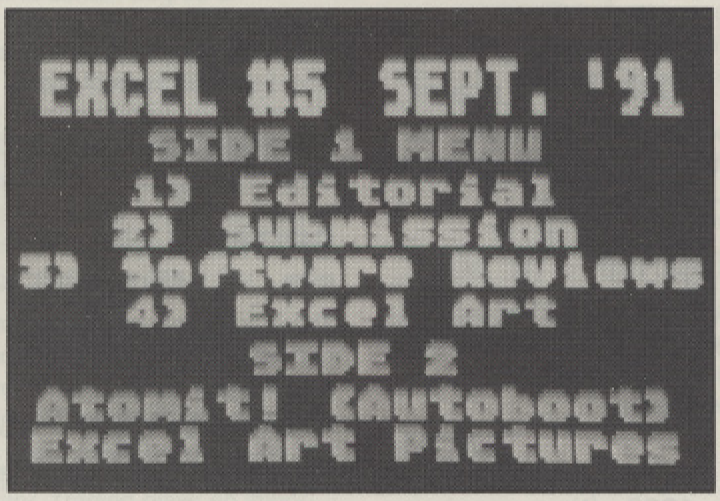
SPY STRIKES BACK, THE ★★
arc/adv Electric Dreams 1985 (t,d) scarce

This is an arcade adventure with the emphasis on arcade. Lots of 'rooms' to map (all looking pretty much the same) and items to find. You also need to be quick on the joystick because there are robots to dodge in each room. The best feature of the game is the continuous music with countless different tunes.

Next issue ...

the concluding part of this series .. don't miss it!

EXCEL DISK MAGS



It's a sad but inevitable fact that support for 8-bit micros - particularly the Atari - has severely declined during the past twelve months. Indeed, the number of commercial organisations investing in XL/XE development projects can be counted on the thumbs of one hand! The shock demise of two 8-bit mail order companies over a year ago left just one 'big' dealer and several independent hobbyists committed to the Atari market. You'd be forgiven for treating the latter with more than a note of caution - especially after the problems caused by certain unscrupulous individuals - but in the end you've just got to take a chance and hope you will be lucky.

To contradict the trend, last April saw the launch of a new 8-bit disk magazine from a group of Atari enthusiasts called Excel. Since then the disks have appeared on a monthly basis. Prior to receiving review copies I hadn't paid much attention, mainly because I'd rather browse through a printed document than stare at a flickering monitor screen. I can't criticise Excel, however, since they wanted to launch a 'real' magazine last year, but had to abandon their plans due to lack of support. I use the word 'their' with a fair amount of journalistic license since the driving force behind the Excel mag, and most of its editorial content, is one Robert Stuart. Robert's talent isn't just a flair for organisational matters, he's also a pretty nifty programmer!

The first edition of Excel was described in the Editorial column of Issue 49 so a detailed account isn't necessary here. The principal contents are a concentration game called 'Amnesia' which was subsequently released on tape and reviewed fully in Issue 51, a couple of neat arcade games and a character set designer for graphics modes four and five. Also included are some pictures and a demo with a scrolling message in the guise of a Fuji symbol (or is it a Fuji symbol in the guise of a scrolling message?).

Although generally well received, the disk was criticised for its lack of reading material. Consequently, the editor responded in the second issue by splitting the disk into two logical sections - side one for text, side two for software. The textual contents comprise an editorial with news and gossip on topical matters, a competition (too late to enter, I'm afraid!), reports on PD software, a readers survey and reviews of eight commercial programs. Whilst the latter have mostly been covered in past issues of NAU, reviewing games is a subjective business and it's always useful to have a second opinion (incidentally Robert, I still think the author of Ruff and Reddy could have put more effort into the graphics!).

Amongst several treats on the flip side of the disk, Triad is an excellent shoot 'em up that was first released commercially (by Adventure International?). Galactic Chase is another ex-commercial game in the form of a traditional space invaders clone and Watch Diz is a demo from the High Tech Team with good music (from Plastron) and the familiar scrolling message. Last and most definitely least, Smush is a rather unexciting spin-off from English Software's Steeplejack in which you guide a man up the drain-pipes(?) and watch out for nasties. Mind you, Steeplejack wasn't all that exciting either!

Excel Number Three's literature section has nine reviews of Ke-Soft games and others, plus the regular editorial. Software goodies include The Studio - a clever sample sequencer enabling you to load, edit and play sound samples stored on disk - and Cavelord, a brilliant arcade adventure from Germany. Your quest is to fly through the caverns collecting treasures and negotiating nasties. This game is addictive! The old favourite Myriapede makes an appearance - looking rather dated nowadays - whilst Roto is another good'un that has your copter-packed hero retrieving canisters from the caves and ferrying them back to base. Eight Ball is a demo of eight balls (strangely enough!) dancing in the upper part of the screen with a panel below in which you can enter various parameters to alter their pattern of movement. The music is brilliant but unfortunately the scrolling message is German! The disk is rounded off with a big (English) rainbow scroller. That's BIG!

Excel Four, Five and Six are basically more of the same. By this I mean more well-written reviews, interesting editorials, amazing demos, worthwhile games, neat artwork, a clean professional finish - in fact, everything you might hope for in a disk magazine. The only improvements I'd like to suggest are more instructions for the games and a utility to print out the articles. At present the textual content is hard coded in basic, which doesn't strike me as being the most efficient method!

If you've pondered over the merits of subscribing to Excel, then ponder no more - just do it! If the forthcoming issues are half as good as those I've received you shouldn't be disappointed. The point is that unless we support Excel and the other remaining 8-bit enthusiasts, our world of 8-bit Ataris won't be around much longer.

HOW TO GET EXCEL

The Excel disk mags are available from Robert Stuart, 21 Stronsay Way, Broomlands, Irvine, Strathclyde, KA11 1HZ. The back-issues featured above are priced at £3 each or £16 for all seven. New issues are £3.99.

reviewed by Paul Rixon



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VERTICAL BLANK MUSIC PLAYER

John Young provides a routine to add music to your programs without slowing them down

Have you ever wanted to add background music to your BASIC programs? It is not easy to produce a decent piece of music that doesn't slow your program down. It is possible to simply turn on a note for the correct length of time, but to make your Atari produce sounds even vaguely like those from a musical instrument you must enter the realms of volume envelopes, and these really do cause a game to come to a grinding halt.

The solution is a short machine code routine that will play a tune in the vertical blank interval. Don't worry if you don't understand the first thing about machine code - you can still use this routine.

The vertical blank interval comes along every fiftieth of a second, after each frame of the television picture has been drawn. Your computer uses this period for housekeeping, but it will also execute a short routine of your own. As your routine is called every fiftieth of a second, this gives an easy way of timing notes.

A READY MADE ROUTINE

Once called, my routine will play a tune in the background without affecting your BASIC program. The example program contains the machine code as data statements (lines 10100 to 10140) and a subroutine to load it into the string VBM$ (lines 10000 to 10060).

You can (and must) use a volume envelope to create more realistic sounds. The volume envelope contains the volume of a note for every fiftieth of a second that it plays. It must consist of 32 volumes in the range 0-15. An example is given in the BASIC program, but other effects are possible, you will just have to experiment.

Lines 10200 to 10360 contain a subroutine to start playing the tune in the data statements from line 10500 using the volume envelope in line 10400. The format used for the data statements is:

Number of notes, length of crotchet in fiftieths of a second, frequency of first note, length of first note (in multiples of crotchets), frequency of second note etc.

Lengths of notes are actually stored in fiftieths of a second. You can have up to 255 notes. If you want to write anything longer you will no doubt think it no trouble to write your own routine to play it! Frequencies must be in the range 0-255. Values which correspond roughly to musical notes are given in the BASIC manual.

CALLING THE ROUTINE

The machine code routine is called from BASIC with a USR call as follows:

X=USR(address of routine, number of notes, address of volume envelope, address of frequency data, address of length data, address of routine+47 bytes)

POKE 352,1 is also required to start the tune.

In the example program the volume envelope and tune are stored in strings, which means that you don't have to find a spare chunk of memory, although you will get some funny results if you try altering the program while the tune is playing (this disrupts the variable storage area). You can poke the machine code routine and your tune data into page 6 or high memory to get a tune to play unaffected by whatever BASIC programs you load. The remainder of the program (lines 120 to 250) demonstrates how to control the tune once it has started.

No matter how good your music you will eventually want to turn it off, which is accomplished with POKE 352,0. POKE 352,1 (or any non-zero number) will start it again from where it left off. Location 349 is the note counter, and 350 counts the length of each note, in fiftieths of a second, so POKE 349,30 and POKE 350,60 will shift my tune to the last instant of the last note, thus restarting it.

I make no apologies for my music, it is intended to encourage you to replace it with your own!

```
HY 10 REM *******************************
HY 20 REM * VERTICAL BLANK TUNE PLAYER *
EH 30 REM *            by              *
PT 40 REM *        John Young          *
GH 50 REM * -------------------------- *
CR 60 REM * NEW ATARI USER - FEB. 1992 *
IE 70 REM *******************************
SA 100 GOSUB 10000
TC 110 GOSUB 10200
SK 120 GRAPHICS 0
TS 130 SETCOLOR 2,3,4
MO 140 ? :? "WHEN THE SAINTS GO MARCHING
   IN"
XU 150 ? "Traditional"
OJ 160 ? :? "VB Music Player written by J
   ohn Young"
WI 170 ? :? "SPACE to switch music on and
   off"
OP 180 ? "RETURN to restart tune"
AK 190 ? "ESC to exit program"
WW 200 CLOSE #1:OPEN #1,4,0,"K:"
GK 210 GET #1,K
EY 220 IF K=32 THEN POKE 352, NOT (PEEK(3
   52))
PE 230 IF K=155 THEN POKE 349,30:POKE 350
   ,60
JG 240 IF K=27 THEN END
MM 250 GOTO 210
AJ 9999 REM  READ IN VB MACHINE CODE
AD 10000 DIM VBM$(113)
EU 10010 RESTORE 10100
LJ 10020 FOR X=1 TO 113
PC 10030 READ A
OR 10040 VBM$(X,X)=CHR$(A)
NB 10050 NEXT X
DV 10060 RETURN
YE 10099 REM  VB MACHINE CODE DATA
QU 10100 DATA 104,104,104,141,95,1,104,13
   3,205,104,133,204,104,133,207,104,133,
   206,104,133,209,104,133,208,160,0
PX 10110 DATA 140,93,1,140,94,1,177,206,1
   41,0,210,104,170,104,168,169,7,32,92,2
   28,96,173,96,1,208,6
AK 10120 DATA 141,1,210,76,98,228,238,94,
   1,173,94,1,172,93,1,209,208,144,24,169
   ,0,141,94,1,200,140
CS 10130 DATA 93,1,204,95,1,144,5,160,0,1
   40,93,1,177,206,141,0,210,173,94,1,201
   ,32,176,8,168,177
WM 10140 DATA 204,73,160,141,1,210,76,98,
   228
VG 10199 REM  START TUNE
YR 10200 DIM VOLUME$(32)
GZ 10210 RESTORE 10400
AM 10220 FOR X=1 TO 32
PI 10230 READ A
AC 10240 VOLUME$(X,X)=CHR$(A)
NH 10250 NEXT X
IK 10260 RESTORE 10500
TW 10270 READ NN,D
TN 10280 DIM FREQ$(NN),LENGTH$(NN)
OS 10290 FOR X=1 TO NN
UN 10300 READ A,B
WJ 10310 FREQ$(X,X)=CHR$(A)
GN 10320 LENGTH$(X,X)=CHR$(B*D)
NC 10330 NEXT X
XA 10340 A=USR(ADR(VBM$),NN,ADR(VOLUME$),
   ADR(FREQ$),ADR(LENGTH$),ADR(VBM$)+47)
UQ 10350 POKE 352,1
EE 10360 RETURN
BL 10399 REM  VOLUME ENVELOPE - PIANO
PV 10400 DATA 0,15,13,11,9,9,9,9,9,9,9,9,
   9,9,9,8,8,7,7,6,6,5,5,4,4,3,3,2,2,1,1,
   0
GL 10499 REM  TUNE DATA
MK 10500 DATA 31,12
PT 10505 REM 31 NOTES, NOTE OF LENGTH 1
   LASTS FOR 12/50 SECOND
QA 10510 DATA 127,1,101,1,89,1,78,5,127,1
   ,101,1,89,1,78,5
VW 10520 DATA 127,1,101,1,89,1,78,2,101,2
   ,127,2,101,2,113,5
GE 10530 DATA 101,1,101,1,113,1,127,4,101
   ,2,78,2,78,1,89,5
KY 10540 DATA 101,1,89,1,78,2,101,2,127,2
   ,113,2,127,5
```

```
;************************************
;*   VERTICAL BLANK MUSIC PLAYER    *
;*   FOR USE WITH BASIC PROGRAMS    *
;*               by                 *
;*           John Young             *
;* -------------------------------- *
;*  Assembler source code for AMAC  *
;* NEW ATARI USER        APRIL 1991 *
;************************************
;
;************************************
;EQUATES
;************************************
;These are standard Atari equates
SETVBV = $E45C
XITVBV = $E462
AUDF1  = $D200
AUDC1  = $D201
;Storage locations for routine
;(bottom 4 locations of the stack)
NTECNT = $15D
LENCNT = $15E
NUMNTE = $15F
CNTRL  = $160
;Zero page indirect addresses for
;tune data
VOLUME = $CC
FREQ   = $CE
LENGTH = $D0
;-----------------------------------
;All the code is relocatable, but the
;address of the VB routine must be
;passed to the installation routine
;as the final parameter in the USR
;call
```

```
;-----------------------------------
;
;************************************
;INSTALL VB ROUTINE
;************************************
        ORG     $600
;Replace with *= for ASSEMBLER/EDITOR
;and MAC/65
;Get data passed by USR call
        PLA
        PLA
        PLA              ;number of
        STA     NUMNTE   ; notes
        PLA
        STA     VOLUME+1 ;address of
        PLA              ; volume
        STA     VOLUME   ; envelope
        PLA
        STA     FREQ+1   ;address of
        PLA              ; note
        STA     FREQ     ; frequencies
        PLA
        STA     LENGTH+1 ;address of
        PLA              ; note
        STA     LENGTH   ; lengths
;Initialise counters for routine
        LDY     #0
        STY     NTECNT
        STY     LENCNT
;Start first note
        LDA     (FREQ),Y
        STA     AUDF1
;Install VB routine
        PLA              ;get address
        TAX              ; of VB
```

```
        PLA              ; routine
        TAY
        LDA     #7       ;for deferred
        JSR     SETVBV   ; vector
        RTS
;************************************
;THE VB ROUTINE!
;************************************
        LDA     CNTRL    ;is byte in
        BNE     MUSIC    ; CNTRL zero?
        STA     AUDC1    ;yes - turn
        JMP     XITVBV   ; off sound
MUSIC   INC     LENCNT   ;no - inc.
        LDA     LENCNT   ; counter
        LDY     NTECNT   ;is note
        CMP     (LENGTH),Y ;finished?
        BCC     CONT     ;if not
        LDA     #0       ;yes - so go
        STA     LENCNT   ; on to next
        INY              ; note
        STY     NTECNT
        CPY     NUMNTE   ;end of tune?
        BCC     PLAY     ;if not
        LDY     #0       ;yes - start
        STY     NTECNT   ; again
PLAY    LDA     (FREQ),Y ;play new
        STA     AUDF1    ; note
CONT    LDA     LENCNT   ;have we got
        CMP     #$20     ; to end of
        BCS     EXIT     ; vol. env.
        TAY              ;no - get
        LDA     (VOLUME),Y ;volume
        EOR     #$A0     ;no distort.
        STA     AUDC1
EXIT    JMP     XITVBV   ;exit VBI
```

MACRO ASSEMBELER SOURCE CODE FOR VBI MUSIC PLAYER

RESTORER

How often have you gone to use a disk only to find that it has been corrupted or you've deleted some important document files? Over the years I'm sure many of us have. Maybe this program is the answer to those problems.

RESTORER will restore many files that you may have thought lost forever. If you cannot access the file, because VTOC has been corrupted then RESTORER can help. If you have simply deleted the file and haven't written to the disk since then you would have no problems recovering the file. The program can restore ASCII, Basic or Machine language and you should have no problems *provided that the sector links are still correct.*

HOW THE PROGRAM WORKS AND HOW TO USE IT

RESTORER first loads into memory two short machine language programs. The first enables access to the disk sectors (this short program was published in COMPUTE! many years ago). The second assists in working out the sector links (this was from a PD program bought out by old Atari User). Then program then goes to a Menu.

On selecting item 1 the program goes straight to sector 361, the beginning of the directory, and shows you each file on the disk together with its first sector number and the total number of sectors. If you return to the menu, you can then look for the sector linkage (by pressing 2) and provide a hard copy if desired. If you haven't got a printer then typing '? SEC$' when the 'Ready' sign appears will enable you to see the sector linkage, press 'CTRL 1' to slow it down. By the way, if you haven't got a printer then 'CLOSE #7:OPEN #7,8,0,"P"' must be deleted from line 10 or an error will be produced.

Pressing R [RETURN] will immediately begin restoring the file displaying necessary information on the screen. Before commencing it does a check to make sure that there is enough memory, if not then it displays how many passes it needs. Just follow the prompts and the file will hopefully be restored.

A filename is asked for before you save the data, but this could be changed to keep the filename as the original which is in 'F2$'. The file is saved to disk in a somewhat slow and primitive manner and this does need to be improved upon, but for the moment works fine.

If in the Menu mode you hit 2 but haven't already been to the Directory, then you will be asked to supply the First and Total (optional, you may supply a 'dummy' number) sector values, but when coming from the directory the program assumes the values of the last directory file read.

The program restores the file by directly accessing the sector and storing it in ST$. It then computes the address of the next sector from the last 3 bytes of each sector in D$, if 'N' equals '0' then its the End of File. Note that when storing into ST$ only 125 bytes are saved as the last 3 that provide the essential information that determine the sector linkage will have to be changed when resaving to disk, fortunately the computer does this for you.

SAVING MEMORY

If you wish to save memory then provided that you know the First and Total (optional) sector values then you can delete much of the program. Lines 20-300 and 700-820 can go. This will save 2k of memory. Just add:

```
11? "INPUT TS/FS":INPUT TS,S:GOSUB 590
```

I have tested this program on many types of file and successfully restored all files including long machine language programs. All ASCII files can be restored without any problem. I have not been able to test the program on files that produce 'ERROR 164 - File Mismatch' as I have none, but suspect that you will have to use a disk editor to find the beginning of the file, then you should be O.K.

There are very few checks or traps so hit the BREAK key and restart if you make a mistake, but don't do it if the drive is saving data!. If you do by mistake type 'CL.#4'/RETURN before restarting or the disk may get scrambled.

This program could be compacted to save further memory by using 'COMPACTER' from Page 6 PD Disk 'Utilities #2' (an excellent program, but what language is it written in? I've often tried to change it to accept a file from 'D8:' and then have it compiled to make it faster, but it will not accept it. Could anyone shed some light on this?). RESTORER could then be speed up by using the 'Turbo Compiler'.

The program has been really badly written and I apologise to all you fine programmers out there, but just hope that RESTORER will be of assistance to many of you. Any improvements to the program will be gratefully appreciated

WHAT THE VARIABLES DO

D$	Stores the data from the selected sector
F$	Holds information on each directory file
F1$	Directory filename
F2$	Directory filename to be restored
R$	Awaits response to question
BIN$	Stores 2nd ML code
D$(128)=" "	Fills D$ with 128 spaces: D$ will not get sector without this
ST$	Restored file kept here
SEC$	Stores sector linkage numbers
S	Sector no.
C	Directory File No.
N	No. of next sector
B	No. of bytes per sector
TS	Total no. of sectors in file
PR	Flag - 1=print out 0= no print out
FL	Flag - 1=file to be saved in more than 1 part 0= file to be saved in 1 part only (Not the same as PT)
PT	How many parts file will be stored in
SEC	No. of sectors stored
BUF	Size of buffer length
X	Amount of sectors that can be stored in ST$. Dependant on memory
Z and Z1	Help determine how many parts file will be stored in

```
EI 1 REM ********************************
QC 2 REM *          RESTORER            *
RQ 3 REM *             by               *
AG 4 REM *         Kit Lethby           *
EC 5 REM * ---------------------------- *
BH 6 REM * NEW ATARI USER  - FEB. 1992 *
EO 7 REM ********************************
NN 8 REM
CL 10 DIM D$(128),F$(16),F1$(16),F2$(16),
   R$(1),BIN$(16):D$(128)=" ":CLOSE #7:OP
   EN #7,8,0,"P":POKE 710,0:POKE 752,1
JS 20 GOSUB 590:GOTO 700
WS 30 S=361:C=1:? "K":POKE 752,1
QR 40 I=USR(1537,ADR(D$),S,1,82)
FU 50 FOR F=1 TO 8
TM 60 POSITION 11,1:? "HIT RETURN TO FLIP
   "
GT 61 POSITION 12,2:? "HIT R TO RESTORE"
ES 62 POSITION 13,3:? "HIT M FOR MENU"
CA 70 POSITION 14,5:? "FILE NO: ";C;"  "
TL 80 F$=D$((16*F)+1-16,(16*F)):F1$=D$(((
   16*F)+1-16)+5,(16*F))
CP 90 POSITION 10,7:? " -> ";F1$;" <- "
GF 100 N=ASC(F$(4,4))+ASC(F$(5,5))*256
CL 105 TS=ASC(F$(2,2))+ASC(F$(3,3))*256
VL 110 POSITION 11,9:? "FIRST SECTOR: ";N
   ;"    "
TG 115 POSITION 11,11:? "TOTAL SECTORS: "
   ;TS;"    "
QU 120 POSITION 19,13:INPUT #16;R$:C=C+1:
   IF R$="R" THEN S=N:F2$=F1$:GOTO 400
RW 125 IF R$="M" THEN 700
QJ 130 NEXT F:S=S+1:GOTO 40
OV 200 DIM SEC$(TS*5)
IQ 220 ? "K":IF PR=1 THEN ? #7;"FIRST SEC
   TOR IS - ";N
RH 225 ? :? "CHECKING SECTOR LINK.....";:
   FL=1:GOTO 245
LL 230 I=USR(1537,ADR(D$),N,1,82):SEC=SEC
   +1:LS=N
GU 240 N=USR(BIN,ASC(D$(126,126)),3)*256+
   ASC(D$(127,127)):IF N=0 THEN 250
VX 245 SEC$(LEN(SEC$)+1)=STR$(N):SEC$(LEN
   (SEC$)+1)="*":IF FL=1 THEN FL=0:GOTO 3
   00
IE 250 IF N=0 AND PR=1 THEN ? #7;"LAST SE
   CTOR IS - ";LS;
EI 255 IF N=0 THEN ? :? "LAST SECTOR IS -
    ";LS:GOTO 280
SV 260 POSITION 2,10:? "NEXT SECTOR IS -
   ";N;"    "
KN 270 IF PR=1 THEN ? #7;N;" - ";
FN 280 IF N=0 AND PR=1 THEN ? #7;" - EOF"
   :? #7;"NO: OF SECTORS=";SEC:CLOSE #7
WH 290 IF N=0 THEN ? :? "EOF":? :? "NO: O
   F SECTORS=";SEC:END
MZ 300 GOTO 230
HZ 400 BUF=(TS*125)
QX 405 IF BUF>FRE(0) THEN GOSUB 900
NA 408 IF PT<>0 THEN ? :? "NOT ENOUGH MEM
   ORY":? "THIS WIL HAVE TO BE SAVED IN "
   ;PT;" PARTS":BUF=(X*125)-125:FOR D=1 T
   O 500:
FC 410 DIM ST$(BUF):SEC=0
CF 415 ? "K":? :? "BEGINNING RESTORATION
   OF..";F2$
AT 460 ? :? "FIRST SECTOR ";S:? "TOTAL SE
   CTORS ";TS
WL 470 TRAP 510:I=USR(1537,ADR(D$),S,1,82
   )
XV 475 N=USR(BIN,ASC(D$(126,126)),3)*256+
   ASC(D$(127,127))
TT 476 B=USR(BIN,ASC(D$(128,128)),127)
WI 478 POSITION 2,6:? "NEXT SECTOR IS ";N
   ;"    "
LQ 480 ST$(LEN(ST$)+1)=D$(1,B):SEC=SEC+1
PC 485 POSITION 2,7:? "STORED SECTORS ";S
   EC;"    "
HD 490 POSITION 2,9:? "BYTES THIS SECTOR
   ";B;"    "
XQ 495 IF N=0 THEN 510
FI 500 S=N:GOTO 470
ZB 510 IF FL=1 THEN ? :? :? "INPUT DESTIN
   ATION DISK AND HIT RETURN":INPUT R$:GO
   TO 550
KW 520 ? :? :? :? :? "FILE HAS BEEN STORE
   D":? :? "INPUT FORMATTED DISK TO SAVE
   FILE TO"
TZ 530 F$="":F1$="":? :? "INPUT FILENAME"
   :INPUT F1$:F$(1,3)="D1:":F$(LEN(F$)+1)
   =F1$
LL 540 IF FL=0 THEN CLOSE #4:OPEN #4,8,0,
   F$:CLOSE #4:IF PT<>0 THEN FL=1
EK 550 CLOSE #4:OPEN #4,9,0,F$
TO 560 TRAP 580:FOR R=1 TO LEN(ST$):RR=AS
   C(ST$(R,R))
FZ 570 PUT #4,RR:NEXT R:IF N=0 THEN 583
NQ 580 CLOSE #4:IF FL=1 THEN ST$="":? :?
   "INPUT SOURCE DISK AND HIT RETURN":INP
   UT R$:GOTO 415
FR 583 ? :? "FILE HAS BEEN RESTORED":END
OZ 585 END
UA 590 FOR I=1537 TO 1603:READ J:POKE I,J
   :NEXT I
GO 600 DATA 104,104,141,5,3,104,141,4,3,1
   04,141,11,3,104,141,10,3,104,104,141,0
   ,6,104,104,141,2,3,169,1,141,1,3,206
XL 610 DATA 0,6,48,29,32,83,228,24,238,10
   ,3,144,3,238,11,3,173,4,3,24,105,128,8
   0,3,238,5,3,141,4,3,24,144,222,96
LY 620 FOR I=1 TO 16:READ A:BIN$(I,I)=CHR
   $(A):NEXT I:BIN=ADR(BIN$):RETURN
DK 630 DATA 104,104,104,133,208,104,104,3
   7,208,133,212,169,0,133,213,96
QS 700 REM
ZU 710 ? "K":? :? "                RESTORER
   "
KM 720 ? :? "1) TO VIEW DIRECTORY/BEGIN R
   ESTORATION"
RB 740 ? :? "2) TO CHECK SECTOR LINK"
DV 750 ? :? :? "F) TO FORMAT DISK"
RP 760 TRAP 710:? :? :INPUT #16;R$
YD 770 ON ASC(R$)-48 GOTO 30,785
PN 780 IF R$="F" THEN 800
MM 785 IF TS<>0 AND N<>0 THEN 793
IR 790 ? :? "INPUT TOTAL AND 1ST SECTORS"
   :INPUT TS,N
OW 793 ? :? "HIT P FOR PRINTOUT":INPUT R$
   :IF R$="P" THEN PR=1
ND 795 GOTO 200
DX 800 ? "K":? :? "                FORMATTE
   R"
EG 810 ? :? " INPUT DISK TO FORMAT AND HI
   T RETURN";:INPUT #16;R$
XE 820 XIO 254,#2,0,0,"D:*.*":CLOSE #2:GO
   TO 700
LS 900 BUF=(TS*125):Y=BUF-FRE(0):X=INT(FR
   E(0)/125)
LG 910 Z=INT(BUF/FRE(0)):Z1=(BUF/FRE(0)):
   IF Z1>Z THEN Z=Z+1
IQ 920 PT=Z:RETURN
```

a utility to recover lost, deleted or scrambled disk files

by Kit Lethby

THE TIPSTER



The New Year has come and gone and so have all those resolutions that you promised to keep and now you can't even remember what they were. Well I have the answer, all you have to do is to read this issues Tipster file and that should see you through all those little resolutions you missed like "I shalt read the Tipster forever until my eyeballs burst!"

We have the solution for Yogi Bear and the Greed Monster and the complete map and helpful tips for Price of Magik. Tips The Goonies,and a nice map for Crystal Raider abound so without further ado lets get gaming!

Tobias Jorborn (hi there Tobias, nice to hear from you again after such a long time) from Stockholm in Sweden has sent in a couple of nice maps for Crystal Raider and Price of Magik and all the stuff necessary to clobber the aforementioned game. I told you that someone would come up with the answer to my requests and I was right. (sorry you were a bit slow Starfleet Controller!)

O.K. so you want the tips for Price of Magik. What's it worth? You'll stop reading? Okay then if you're going to play dirty just look across the page!

QUICK E'S ... QUICK E'S ... QUICK E'S

Speilunking should be a lot easier with this one from Paul Cole of Ashford as he offers these tips for **BOUNTY BOB**. Set the special code to 61800 and hold down the F key and then press the OPTION key. Start the game, the keys are,

F = BOUNTY BOB FLOATS
Q = NEXT SCREEN
A = BACK A SCREEN
B = ORIGINAL POSITION
Z = RESET SCREEN

Also from Paul is a handy little thingy. If you hold down the T key on booting up **CONAN THE BARBARIAN** you are granted immortality while playing the game.

From Harvey Miller comes this tiperooney for **KENNY DALGLISH'S SOCCER MANAGER**. If when you are watching the graphical highlights of a game you tap the fire button continuously you can watch the game in slo-mo.

ST TIPS

Again I bring great joy for all those ST demo freaks out there who just love finding the cheats and hidden screens in the worlds best ST demos.

This issue there is only one, and by crikey its for the best STOS demo there is. The Retinal Burn Demo is by the Asylum (TFC, Digi Tallis and The Bomb Squad) and is available from the Page 6 library as of this issue.

Okay, so to get to the demo you must press help twice when it gives you the credits at the beginning and then type in :- **OXF*CK**

Fill in the missing letter if you know what's good for you, and then sit back and enjoy some beautiful tracking 'n' dancing sprites.

New Years Resolutions?

SMARTER THAN THE AVERAGE TIPSTER!

To go with the map and hints for Yogi Bear and the Greed Monster in issue 52 here is the solution thanks to Michael Emerson of Nailsea.

To this solution there is a key which must first be explained otherwise it's going to be impossible to understand.

PB=PICNIC BASKET, S=SWEETS, H=HONEY, M=MONEY, C=CAN OF POP, T=TOY, B=BUBBLE GUM, K1=KEY1 K2=KEY2 etc, D1=DOOR1 D2=DOOR2 etc., U,D,L,R,=UP, DOWN, LEFT, RIGHT

Solution

GET PB, D, GET S, PUSH LEVER ON LEFT, D TUNNEL, R, U, U, GET H, R, GET M, L, D, R, GET C, D, GET T, R, GET T AND BLUE TUBE, D, D, GET T AND M, L, GET T, D, GET T, L, U, GET M, R, L, U, R, GET PB, R, GET T, L, L, L, GET T, D, D, GET M (AVOID KEY 6), R, GET M, R, R, GET S, R, GET M, GET T, U, GET C, U, GET M, R, GET PB, D, GET S, U, OPEN D1, U, L, D, GET T, U, R, R, GET M, D, CHANNEL TO AVOID FLASHING BALLOON, GET M, R, D, R, GET M, U, GET T, D, R, D, GET T, AVOID B, R, GET T, D, GET PB, L, GET S, GET K5, L, GET M, R, R, U, L, L, U, L, D, U, L, U, CHANNEL, L, U, L, U, GET M, D, GET S, OPEN D5, GET QUICK DRAW MCGRAW, U, U, R, D, R, D, R, U, L, GET T, R, U, GET H, GET T, D, R, U, R, GET T, R, GET M, R, GET H AND K2, L, L, D, GET T, L, D, GET H, D, R, D, R, U, GET T, OPEN D2 AND RESCUE BOO BOO, GET PB, D, D, L, U, L, L, U, L, D, L, D, D, L, L, L, GET K6, R, R, R, U, U, R, U, R, D, OPEN K6 AND RESCUE SNOOP AND BLABBER, U, U, L, U, L, U, L, GET K3, R, D, R, D, R, D, R, D, R, D, U, U, GET M, U, L, GET M, R, R, GET M, D, GET M, U, R, D, GET T, L, D, GET M, D, R, OPEN D3. YOU HAVE NOW REACHED THE "GREED MONSTER"

GEMS

A few quick gems are available from Jan Elliot and Matthew Gates of Slade Green and without further ado and with immense pride and pleasure we present you the tips that reach places ..... (That's enough of that! Ed)

If you put a heavy weight on the CONTROL and the S key in **PREPPIE** then it might be slow but most of the time it disables the timer.

By driving into a skip on your bike in **DESPATCH RIDER** it gives you another place to pick up a package.

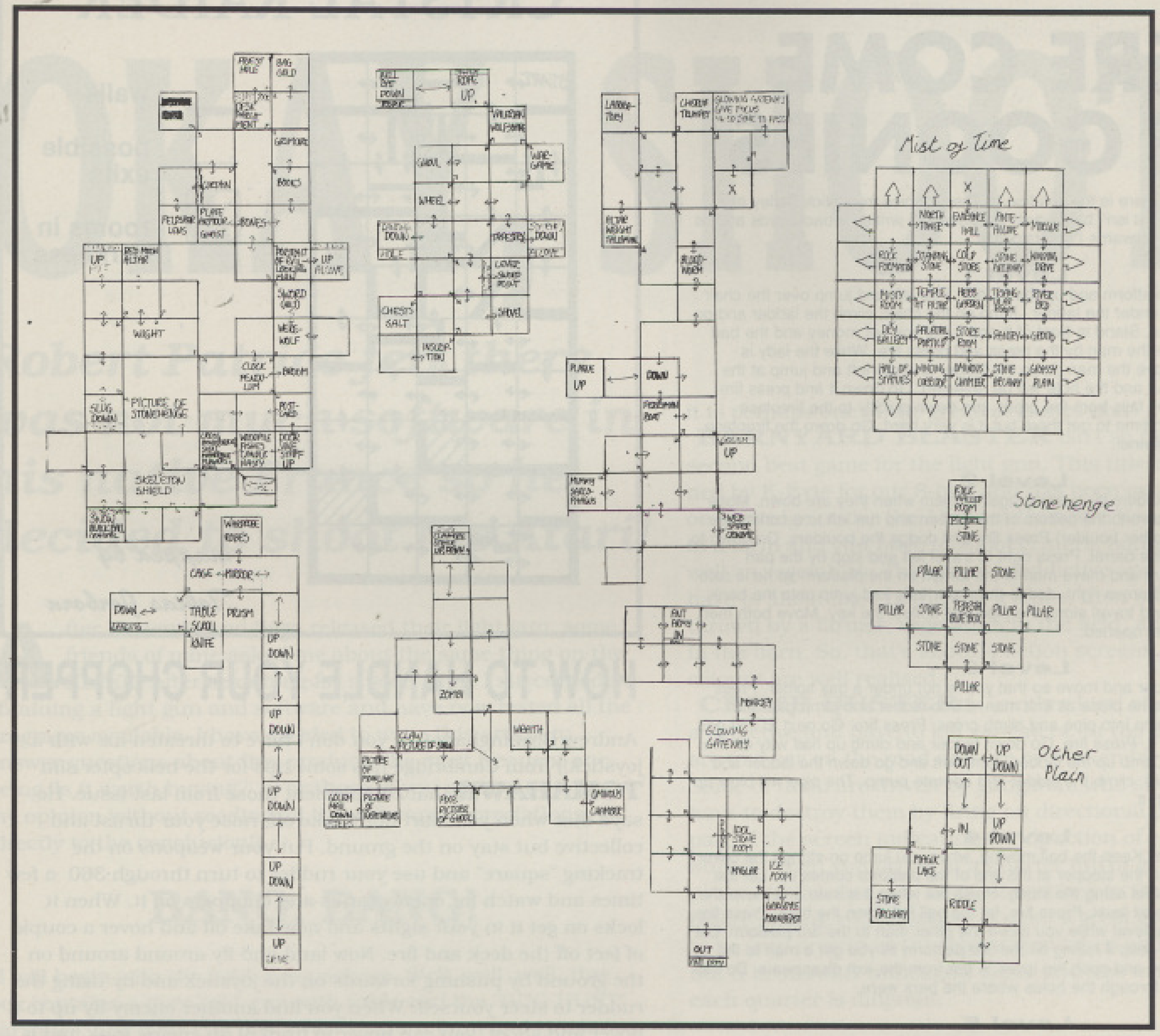
During the bout against the BRONX BOMBER in **FIGHT NIGHT**, guard yourself well and throw few punches. If you have more points at the end of round three than him then he will be knocked out.

In **ROGUE** instead of pressing T for the map press OPTION. You can still move about but it is slower.

On level 8 of **HENRY'S HOUSE** climb the ladder between the moving spiders. Keep pressing the space bar to pause the game until you have stopped it just as it going up. Push joystick to the left and take off the pause. Run like hell and take the cross.

If an alien boards your ship in **RESCUE ON FRACTALUS** and the mother ship is in the area, press B for the booster and the craft will swerve about a bit but in time climb and kill the alien in space.

PRICE of MAGIC



mapped by **Tobias Jorborn**

PRICE OF MAGIK HINTS

How to get the knucklebone: *Take mandrake*
How to learn magik: *Read scroll*
How to find prism: *Cut the mirror with the ring*
How to read parchment: *Cast FLY on yourself*
How to get armour: *Bury knucklebone, skull and bones with a shovel*
How to get sword: *Pull the lever*
How to pass werewolf: *Carry the wolfsbane*
How to be young again: *Touch the Red Moon*
How to pass slug: *Throw salt at it*
How to get staff: *Cut vine*
How to see in darkness: *Rub eyebright flowers in your eyes*
How to get balls: *Take the monkey to the cold store. Search the snow once the monkey has gone*
Secret doors?: *In oak panelled corridor and in the study*
How to get wheel: *Hypnotise the bat*
How to get silver mail: *Give robes to the Golem*
How to kill spider: *Cut the web*
How to pass Bloodworm: *Carry bat*
How to pass Gargoyle: *Tell it the answer of the riddle (=fear)*
How to pass Moonbeasts: *Wave mirror*
How to enter stone room: *Cast ESP spell at door, cast BOM at idol, cast ESP at door, cast HYP at idol, cast ESP again and say "Idol, open door"*
How to beat Myglar: *Cast ZEN, then cast DED*
How to get to Stonehenge: *Cast BOM at the picture*
How to get to other plain: *Rub the Talisman*

Spells

Name	Sanity	Description	Learning place (object)	Focus
DOW	100	Examines if target is magic	pendulum	pendulum
MAD	100	Makes target mad	table	grimoire
SEE	100	Detects secret doors	lab	feldspar lens
FIX	91	Cure target	tapestry	valerian
FIN	91	Turns mail-wearing target into a fish	silvermail	silvermail
BOM	81	Brings things to life	clock	trumpet
KIL	81	Makes target go berserk	wargame	axe
DET	71	Detects dangers	priest hole	eldars cross
XAM	71	Examines magik properties of target	prism	prism
ZEN	61	Takes you to the mists of time	parchment	mirror
SPY	61	See room where target is	statue	candle
ESP	51	Look into room in any direction	front door	crystal ball
FLY	51	Makes target fly	ominous chamber	broom
ZAP	41	Lightning strikes at target	wargame	ashes
DED	41	Cancel all spells	altar	wheel
SAN	31	Makes target sane	plaque	claw
IBM	31	Makes target fearful	blue box	blue box
HYP	21	Hypnotises target	inscription	staff

MORE TIPSTER ☞



HERE COME THE GOONIES

As promised last issue here is the solution to The Goonies from Nick Farley of Bourne in Leicestershire. It isn't backwards because I've written it backwards and its incomprehensible so its forwards I'm afraid.

Level 1

Move man along 2nd platform and up the ladder. Run left and jump over the chair and push it right till it is under the ladder. Jump on the chair, climb the ladder and go right to the printing press. Stand in front of it and it will spit out money and the bad lady will collect it. Leave the man by the press and press fire. While the lady is collecting the money move the man down the ladder and run left and jump at the water. The fire will go out and the hole will be revealed. Go down it and press fire. Just as a piece of money falls from the press, run down quickly to the fireplace. There should be enough time to get there but it is very hard. Go down the fireplace and run right down the tunnel.

Level 2

Run past the falling boulders by pushing against them when they are down. Move on to the lift and drop down to the bottom of the screen and run left to a corkscrew type thing. (This lifts another boulder) Press fire and dodge the boulders. Go down to the lift and go left onto the barrel. Press right to travel left and stop by the pan dropping water. Press fire and move man to the far left on the platform so he is safe from bats. Press fire and press right, dodge the water falls and jump onto the bank. Jump onto the mound and travel along the pipe and collect the key. Move both men to opening which has just opened.

Level 3

Go right and go up ladder and move so that you're not under a gas spitter. Press fire, move 2nd man to same place as first man. Climb ladder and jump gap and climb another ladder. Jump into pipe and climb cross. Press fire. Go next to first gas tap and stand in front of it. Press fire. Go down ladder and climb up half way on the next ladder. Press fire. Climb up the ladder. Jump left and go down the ladder and go to the pump. Press fire, climb the ladder and operate pump. The pipe will blow up and you must go through it.

Level 4

This is a very hard level. Keep the ball moving, when you jump on strings the cover on a hole disappears and the stopper at the end of the platform comes up. Let the ball roll around the top level using the string. Press fire when it is safe and move the other man down to the next level. Press fire, let the ball fall down the hole. Press fire, keep it rolling around the level while you move the other man to the 3rd platform. Let it fall down the hole and keep it rolling on the 3rd platform till you get a man to the very bottom of the screen and push the lever. A bar from the exit disappears. Do this three times and escape through the holes where the bars were.

Level 5

This level is too unpredictable to explain accurately. What you have to do is move skulls to the bottom right to form a ladder before they become skull flies. When you jump on bones on the ceiling the ladders disappear or reappear. If you go through the big skull's mouth you appear at the top right of the screen, through its left eye you end up at the bottom left of the screen and if you are at the top right of the screen and keep going right you end up at the right eye. Climb the skull ladder and go down the tunnel to escape.

Level 6

When blue blobs fall on the coloured notes the platform of the same colour disappears. Move to the bottom middle of the screen, move up a ladder and jump onto the bone above it. The door disappears. Press fire, move down to the middle bottom of the screen and go through the doorway. You will appear at the top right of the screen. Work your way downwards by the small platforms and go to the bottom right of the screen, Jump onto the bone. Press fire, move the man down the ladder through the open gate and down the screen in the same way as before. Jump on to the small white platform and then onto the bottom right platform.

Level 7

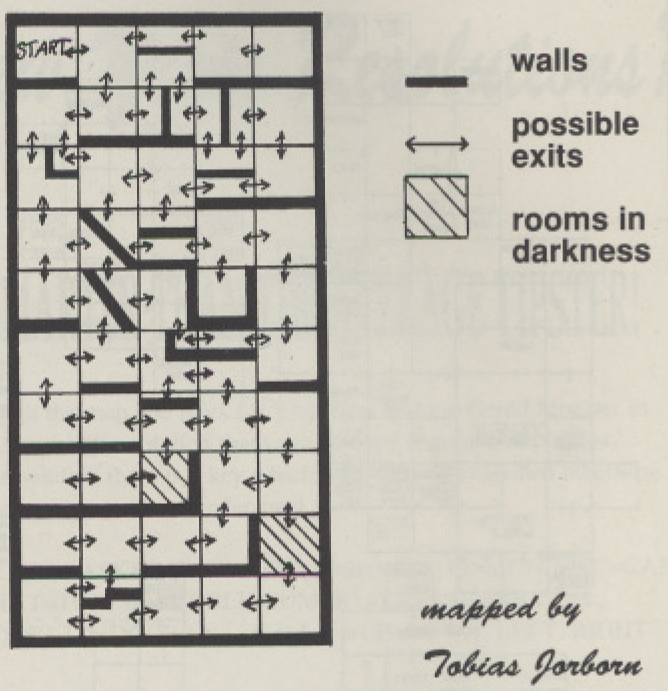
Move both people right and on to the ladder. Move one man up to the top of the ladder and jump him on to the bars up the other ladder and across the pipes going left. Jump on to the right pinball springer and keep jumping till you grab onto the bone which drops a box into the water. Press fire, move the man on the ladder and push the box until it is under the bone. Jump into the box and jump onto the bone. This releases the left pinball springer. When you jump on it the octopus goes down into the water. Jump out of the pinball bit and jump into the tunnel past the octopus. Press fire and move the door man to the same place.

Level 8

Go up the big ladder and walk right until you get to the mast. Go down the ladder and jump on to the string. Press fire, go up the long ladder and down the first open trapdoor. Go to the ladder and pull the chain. Press fire, go up 2 ladders and down the short ladder to be by the tall person. Press fire, go down next short ladder and go across and pull the chain. Press fire go down the ladder and through the open trap door. Walk right and climb all 3 right ladders. Push chest off the ledge. To kill the lady (when you do this make sure you are the tall person or she will kill you) go down to the bottom of the ship and climb all 3 ladders on the left, and pull the string. Press fire, go down the open trap door to the chain with the other person on it and jump on it. Press fire, jump off the chain and go up the 3 ladders on the left. Go across to the mast and go down the ladder so you don't fall down the hole. Press fire, move up the first 2 ladders on the right. Jump on to the sail boom on the mast. Press fire, move the lever. Press fire, go onto the deck with the chest on it and move up to the chest. Press fire, go down the trapdoor and up the 3 ladders on the right and move over the chest. You will now get a nice ending picture because you have completed The Goonies.

THAT'S ALL FOLKS!!

CRYSTAL RAIDER



HOW TO HANDLE YOUR CHOPPER

Andrew Birmingham (see you don't have to threaten me with a joystick!) from Cambridge has some tips for the helicopter sim **TOMAHAWK** that complement those from last issue. He says that when you start don't take off, raise your thrust and collective but stay on the ground. Put your weapons on the tracking "square" and use your rudder to turn through 360 a few times and watch for enemy tanks and choppers on it. When it locks on get it in your sights and now take off and hover a couple of feet off the deck and fire. Now land and fly around around on the ground by pushing forwards on the joystick and by using the rudder to steer yourself. When you find another enemy fly up to it hover and shoot, you can hover in front of an enemy tank and it won't shoot back!

That wraps up this issue apart from the help that people need before they start gnawing their own arms and legs off over a game that you have completed. Do the right thing send 'em in (letters that is, not arms and legs).

Sherman Hill of Burton-on-Trent asks the question "When is the Atari ST version of Zeppelin's megamighty game **ZYBEX** to be converted?" Well as far as I know they were never going to do a conversion but you could change their minds if all you ST'ers (that includes me as well) bombard them with letters asking them to do a conversion (Zeppelin are going to love me for that one!)

In answer to David Hurst plea for help with **SPELL-BOUND** all I have to say is look at issue 42 for the solution.

Su Tutcher of Stanford-Le-Hope wants to know if there is a way to skip levels in Drelbs. I don't know but one of you lot does!

THE HULK and **STARCROSS** are proving problems for Robert Reid. He can only go into two rooms in The Hulk and gets killed if he goes outside and in Starcross he can only get to 3 rooms. Come on get moving you lot!

All that is left for me to do now is to hope that you had a Merry Christmas and that you have a happy and prosperous New Year.

Oh no it's that address again!!!!

THE TIPSTER
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1DR

OKAY, SHOOT!

Robert Patrice felt there was not much software in his native France so he decided to shoot his Atari!

After Nintendo and Sega released their light gun, some friends of mine asked me about the same thing on the XL/XE. After searching for a good while I succeeded in obtaining a light gun and software and have now tested all the programs available. I have decided to write this article to answer questions about this product, the most frequent one being 'Is it worth buying?'. (For those of you who want to know my opinion without reading all the software appreciations, go directly to the conclusion!).

BANG, BANG!

I will begin with the light gun package. Well, well, well, this box contains a grey light gun with cable and the "BUG HUNT" cartridge. The light gun has a very modern form and is relatively precise, but the Bug Hunt program is awful and unplayable. So, forget this game. Yes, I know. It's a bad beginning, but don't cry, because here comes the greatest!

Have you ever heard of **CROSSBOW**? You probably knew the arcade version who appeared in 1983 under the Exidy label and discovered the VCS version adapted in 1987. But did you see the 8-Bit version? Probably not, but let me explain how great this game is. I didn't even know that this game existed until I saw the title in the B & C Computervision catalog, so I ordered it from the States and got it some months ago. The XL version has the Atari copyright since 1988 under the Exidy trademark.

Imagine a game on cartridge with 8 action screens plus the map screen plus one beautiful presentation screen. That's 10 screens in 16K!! And what screens!! Each is full of colours and sprites at which you can shoot. The aim of the game is to escort your friends into the danger zones where loathsome creatures try to kill them. The 8 danger zones are respectively: the DESERT full of scorpions, vultures, snakes, rabbits and ants; the CAVERNS with bats, stalactites falling from the wall, ghosts; the VOLCANO and his burning rocks and lava; the JUNGLE with monkeys throwing coconuts as well as voracious plants; the VILLAGE which has the most important quantity of enemies with ghosts, wolves, the evil master and people appearing at windows and shooting at your friends; the RIVER with bouncing boulders, pterodactyls, spies, fishes, alligators, frogs and birds; the DRAWBRIDGE in which you must avoid the archers' arrows, the pterodactyls, the alligators and open the drawbridge and the CASTLE HALL which is the final scene where you must avoid the dragon's fire breath as well as arrows flying from the walls.

As you may now have understood, this game is really great and although one of the rarer pieces of software for your 8-bit, it is perhaps one of the greatest games ever!

BARNYARD BLASTER isn't so rare but is the second best game for the light gun. This title has been designed by K-Byte for our 8-bits and has been available since 1987 on cartridge under the Atari trademark. The action takes place in a farm and you have to shoot critters, bottles and varmits as well as vegetables. This game is addictive and funny as you have to shoot fixed bottles on a fence, then moving bottles thrown by a farmer, vegetables in the field, and many animals in the barn. So, that's about 4 action screens. Animation and colours are well realised.

CRIME BUSTER is another kind of action as you are a detective and have to kill gangsters. In the first screen, you are in a car on the road and are overtaken by other vehicles. Some of them are driven by gangsters who shoot at you, so you have to destroy them by firing on directional arrows in the low part of the screen indicating the direction of your shooting bullets. Then you arrive in a quarter full of gangsters on which you must fire, but you have 12 sections in the city to clean before ending your mission. It's not a great game as you have to be very precise in the first screen when shooting on arrows, but it is an Atari trademark game and has many screens and each quarter is different.

SHOOTING DISKS

Well, we have now seen all the cartridges available for the light gun, so let's have a look at game disks.

LIGHT GUN BLASTER is the only public domain game using the light gun. It was first published in the February 1988 issue of 'Atari User' and is now available in the Page 6 PD library on the Pedrokko disk. All you have to do in this game is to shoot the most common coloured squares among other coloured squares. Pedrokko has redesigned the game by including a gun sound FX created with Parrot II and, as he says, the 'Dirty Harry's 44 Magnum'.

The latest game I have tested for the light gun comes from Italy and is called **GANGSTER VILLE** from a software house called Lindasoft. This game has been written in Basic in 1988. The aim of the game as you may have guessed from the title is to kill gangsters located in different places. Among the screens I have seen, the action takes place in an hotel, bank, house covered by snow, casino, post and so on, but I haven't been any further because they got me before!!

CONCLUSION

If you can put your hand on a light gun package, do not hesitate, especially if you can have **CROSSBOW** and **BARNYARD BLASTER**, which will boost the value of the package!! As you have probably understood, the light gun alone is not worth having but the light gun with the two above cartridges is really a great deal which will bring you hours of fun and entertainment. If you can try all these three elements, you will understand what I mean!!

Ian Finlayson's

TUTORIAL TIME

USING RANDOM NUMBERS

My subject for this article is random numbers. It is quite short and not too difficult, but like many subjects that seem straightforward it is possible to get in a muddle if you do not understand the basic principles. For convenience I will use the term "random number" throughout this article, but what I am really talking about are "pseudo-random" numbers. Mathematicians are very fussy about true random numbers and the generation of such numbers is a science in its own right, but for us the numbers generated by the Basic "RND" operator should suffice - unless you want to create a set of random numbers for a premium bond draw or some such project and then you will either have to study the matter in great depth or pay for a set of random numbers to suit your purpose.

THE RND OPERATOR

Atari BASIC gives us a random number generator in the RND operator. The operator has to have a dummy variable with it which is usually set to zero, though any number will do, so the expression to use is RND(0). This returns a random number between zero and one which is never equal to one. Thus it is quite easy to make a whole list of random numbers between 0 and 1 each with nine decimal places. Try typing ?RND(0) and see what happens - you will get results like:

0.390884399 and 0.657516479 and 0.189633178

This is not very practical, so I will go on to show how to get a random number in the range 1 to 10. First multiply by the required range of numbers in the series (in this case 10): RND(0)*10 - this gives a random number with 8 decimal places in the range 0 to 10 (but never quite equal to 10).

Next turn it into an integer: INT(RND(0)*10) - this truncates the number deleting everything after the decimal point, so we now have random whole numbers in the range 0 to 9.

Finally add one and the result - INT(RND(0)*10)+1 - gives random whole numbers in the range 1 to 10. The same expression can be used for any range of whole numbers by replacing 1 with the starting number and 10 with the range of numbers you wish to generate.

PICKING NUMBERS FROM A SERIES

Now we know how to pick a single number randomly from a predetermined range of integers, but often we need to pick a series of random numbers without repeating any, as you would if you wanted to call the numbers for a game of Bingo. Each number can be selected using the technique shown above, but it must then be checked in some way to ensure it has not come up before. If it has already been picked it must be rejected.

One way of ensuring that a number is not chosen twice is to set a flag to indicate when it is chosen the first time. If we look at a series of 100 numbers (1 to 100) we can set up a series of variables FLAG(1) to FLAG(100) to show when each number is chosen. The variable must be initialised to zero at the start of the program to show the number is available and must then be changed to one if the number is chosen. Look at Listing 1. I will not explain it line by line, but it does exactly what I have described above and generates a set of numbers in the range 1 to 100 in a random order, using each number only once. Run this program and you will see the problem with this method. It starts choosing numbers very quickly but slows down as it goes on. This is caused by the numbers being "used up" so that the random number generator is more and more likely to choose a number that has been used before. When it gets towards the end, let us say when ninety numbers have been chosen, there is a 90% chance of choosing a number that has been used already so the program has to loop several times before it finds a number from the unused ten remaining. This situation gets worse as we approach the last number in the series.

There is, fortunately, a way to get away from this problem and that is to remove numbers which have been chosen and thus reduce the range of numbers from which the next selection will be made. This means we are always selecting a number from a range of numbers which is equal in size to the numbers left. Listing two shows a way of doing this. Again it is written for a set of 100 numbers. What I have done is as follows:

Lines 10 and 20 - make a set of numbers from 1 to 100 in the variables NUM(1) to NUM(100) and set the variable RANGE to an initial value of 100.

Line 30 - generates a random number PLACE between 1 and RANGE.

Line 40 - prints to the screen the number stored in the variable NUM(PLACE).

Line 50 - If PLACE is the last position in the range forget it and jump to line 70 where RANGE is reduced by one.

Lines 60 and 70 - If the chosen number is not the last in the range it is replaced by the last number in the range and then RANGE is reduced by one. To explain that another way, the last number is moved to replace the number just used and then the last place in the range is deleted.

```
WO 1 REM ******************************
CR 2 REM *    TUTORIAL SUBROUTINES    *
FB 4 REM *     RANDOM NUMBERS 1       *
XU 5 REM *            by              *
CO 6 REM *       Ian Finlayson        *
OG 7 REM *----------------------------*
GB 8 REM * NEW ATARI USER - FEB 1992  *
WW 9 REM ******************************
NJ 10 DIM FLAG(100):FOR NUM=1 TO 100:FLAG
   (NUM)=0:NEXT NUM
HP 20 FOR COUNT=1 TO 100
YG 30 NUM=INT(RND(1)*100+1)
YW 40 IF FLAG(NUM)<>0 THEN 30
PI 50 FLAG(NUM)=1
LX 60 ? NUM
VC 70 NEXT COUNT
```

```
WO 1 REM ******************************
CR 2 REM *    TUTORIAL SUBROUTINES    *
GE 4 REM *     RANDOM NUMBERS 2       *
XU 5 REM *            by              *
CO 6 REM *       Ian Finlayson        *
OG 7 REM *----------------------------*
GB 8 REM * NEW ATARI USER - FEB 1992  *
WW 9 REM ******************************
WG 10 DIM NUM(100)
VL 20 FOR COUNT=1 TO 100:NUM(COUNT)=COUNT
   :NEXT COUNT:RANGE=100
IS 30 PLACE=INT(RND(0)*RANGE)+1
EX 40 ? NUM(PLACE)
HT 50 IF PLACE=RANGE THEN 70
JB 60 NUM(PLACE)=NUM(RANGE)
ZX 70 RANGE=RANGE-1
BM 80 IF RANGE=0 THEN END
SI 90 GOTO 30
```

Line 80 - checks to see if all numbers have gone and if so end.
Line 90 - jumps back to line 30 to find the next number.

If you run this program and compare the time it takes to the previous one you will see that it is nearly twice as fast. If you then change the overall range to a thousand in each case and time them again you will see the real strength of the second method. It is much faster. With this method the time the program takes to execute is approximately proportional to the range of numbers being processed (ten times as many numbers take ten times as long) while with the first method the execution time gets very long with quite small increases in range.

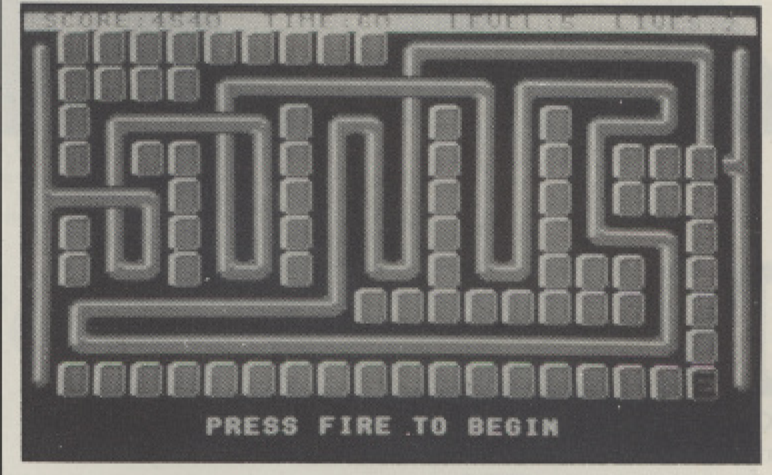
I hope I have made the use of the RND operator a little clearer. The second listing should be very easy to change to meet specific requirements in your own programmes.

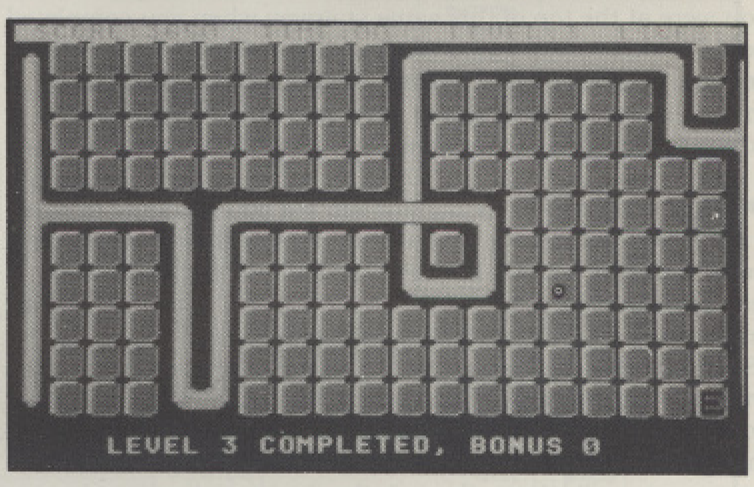
Finally I must end with an apology. I am certain that I have lost some mail that was awaiting action and I think there may have been one or two letters from you amongst it. If you have written to me with a query and have been waiting more than a month for a reply please do not continue to suffer in silence. Write again and I will reply. The address is still as follows:

Ian Finlayson, 60 Roundstone Crescent, East Preston, West Sussex, BN16 1DQ

DISK BONUS

PIPELINE





by Chris Guise

A thought provoking challenge that tests your wits in completing a pipeline as time runs out

The object of Pipeline is to complete a pipe from one side of the screen to the other within a set time limit. You have certain sections of the pipe in place and you must figure out the course of the pipeline by using various angles and straights available. Sounds simple but when the time ticks away and the design is complex you will begin tearing your hair out!

The program itself contains full instructions on how to play but there is cheat mode which will give you infinite time - it's up to you to discover how to activate it!

PIPELINE is the BONUS on this Issue's disk which also contains all of the programs from this issue ready to run - no tedious typing! Disk subscribers will have received their disk with this issue but you can purchase the disk separately for just £2.95! Order from PAGE 6, P.O. BOX 54, STAFFORD, ST16 1DR. Send a cheque or P.O. or order by telephone using your credit card - telephone 0785 213928

NOTE FOR 400/800 USERS: The intro screen on the issue disk does not run on these machines. As the disk boots a jumble will appear on screen, just press START and you will go straight to the menu. You can replace the AUTORUN.SYS file on the disk with one of your own to run the menu if you wish.

ZORK III

Now that you have triumphed over all the trials and tribulations of Zork II, after a short well-earned rest, you will want to send your adventuring ego, once again defenceless and unprepared, into the unknown realms of Zork III.

On power-up you will find yourself at the bottom of an endless stair, with the 'ole faithful brass lantern at your feet. You were at the top of this same stairway when you completed Zork II. You soon find a sword, but unfortunately, it is embedded in a large stone and despite all your efforts you cannot wrench it free. So feeling very wary and rather timid your adventurer begins its wanderings around the unmapped caves.

The completion of Zork III will see you graduate from a lost, wandering adventurer to a full blooded Dungeon Master and Enchanter. Not that you will be any the less lost when, or if, you start the next game, Enchanter. Some people are just gluttons for punishment!

So in Zork III you need to gather all the accoutrements of a Dungeon Master, a staff, an ancient book, a strange key, a hood and cloak, an amulet and a ring. Once you have all these, the old Dungeon Master - who wishes for nothing else but his retirement - will let you through the dungeon door to solve one last puzzle in order to complete the game, your reward is to become the new Dungeon Master and custodian of the Dungeons of Zork. He then flies off to Santa Ponza, for a long and overdue vacation in the flesh-pots of Spain, leaving you in charge of the dungeons for eternity, or at least until you find another sucker to take-over the tedious job!

But first, you need to obtain the six items required and to find the way to the Dungeon Masters door. This is concealed behind a secret entrance which will only reveal itself by an act of charity to an old tired man. He appears sound asleep in fact, and he wakes up feeling rather hungry.

You will find that there are more characters to deal with in Zork III than in the previous two games. You've met the annoying but useful thief in Zork I, the totally irritating Wizard, the inscrutable Gnome of Zurich and the elusive Princess in Zork II. Here you will have to contend with at least five characters, and dodge some irate guards. The first person you meet does not appear, initially, to be very trustworthy, but you will discover that you have to trust him with your life as well as your newly found treasure. You need his help to get the chest and yourself up the cliff, he then opens the chest -which you can't do - takes the contents - which you don't like - and leaves you a staff - which you do like!

A walk along the shores of the Flathead Ocean, will not only give you a breath of invigorating fresh air, but may reward you with the sight of an ancient Viking Ship, and an equally ancient Viking sailor hailing you, give a gay greeting in reply and you might goad him into throwing something at you.

Back in the land of shadow you will be confronted by a hooded stranger (THE hood and cloak perhaps). Now, amazingly as if by magic, the unattainable sword zaps itself into your hand and you lunge into a battle to the death, but control your lust for blood, a fight is necessary but to win this one you mustn't be too violent.

The amulet and key you find south of the creepy crawl if, after a dip in the lake, you go down into a dark place where Grues abound. You need more than the old lantern, and the solution to this lies on the west shore of the lake. The problem is - how to swim the Lake whilst holding a flaming torch, without getting it wet and dousing its light. The answer may be in something you thought was useless after it had been emptied.

You will experience an earthquake, which amongst other things destroys the Aqueduct and also opens a passage beside the great door which leads into the museum. In the museum is the Royal Puzzle, which is my favourite puzzle and solving it rewards you with the ancient book. Remember the marble walls are solid and the sandstone walls can be pushed. You have to push the blocks of sandstone around to find one that has the ancient book hidden under it, then you have to find your way out. You came in via a hole in the ceiling and you cannot get out that way, or can you? You notice that two of the blocks have a ladder attached to one side. But is it possible to manoeuvre a ladder under the hole? Remember that to move a block south you have to get around to the north side of it and push. Two immovable blocks of marble sit in the middle of the puzzle, to make it that bit harder! There is an

ZORK III HINTS

1. Can't get through beam room :-DRO WSH TIW MAE BKC OLB
2. Can't get the chest :-TIA WDN AEP ORO TTS EHC EIT TIA WDN AEG DEL OTE POR BMI LC
3. Can't get back up the cliff :-NIA GAT IAW DNA EPO RTE G P UDE LLU PNE EBS AHT SEH CEH TRE TFA
4. What do you say to the viking :- RO LIA SOL LEH
5. Can't get hood and cloak :- D OOH EVO MER- HGU ONE KAE WSI EHN EHW, FFO MIH HSI NIF TON ODT UBD ROW SHT IWN AMLL IKE PYT
6. Can't find secret door :-DAE RBM IHE VIG NA MDL OPU EKA W
7. Can't get the jewels :-677 OTLA IDTE SDN AMO ORL EWE JEH TOT ENI HCA MDL OGE HTH SUP
8 Can't get back :-849O TLA IDT ESEN IHC AMD LOG FOT AES R EDN UGN IRE DIH M UES UMO TOG Y AWA OGS DRA UGL LIT NUT IAW
9. What does the mirror do :- S NEP ORO RRI MMO ORN OTT UBN INO TTU BSS ERP
10. How do you move the mirror :-T SEW OGN EHT HTR ONS TNI OP WOR RAL LIT UNL ENA PDE RHS UPE LOP TRO HST FIL
11.How do you get past the guardians :-LAI VEH TFO STN ETN OCE HTW OLL AWS
12. How do you get the torch across the lake :-DIL ESO LCD NAT SEH CYT PME EHT NIT ITU P
13. Whats the final solution :-HTU OSO GDN AYE KEGN ART SHT IWR OOD EZN ORB KCO LNU NOT TUB SSE RP.M .DLL ET 1O TLA IDT ES.M .DLL ET ROO DLL ECE SOL C.LL ECO TNI OG'N OTT OBS SER P'.M.D LLE T 'ERE H YA TS'R ETS AMN OEG NUD LLE T 4OT LAI DTE S
14. Can't find the amulet :-DNA SEH TNI YNI HSG NIH TEM OSE ESL LIW UOY EKA LEH TFO MOT TOB EHT TAT SEH CEV EIR TER OTE VID UOY NEH W

III

easy way out but the price is the ancient book and you can't afford that. So you will have to persevere and find out how to do it the hard way.

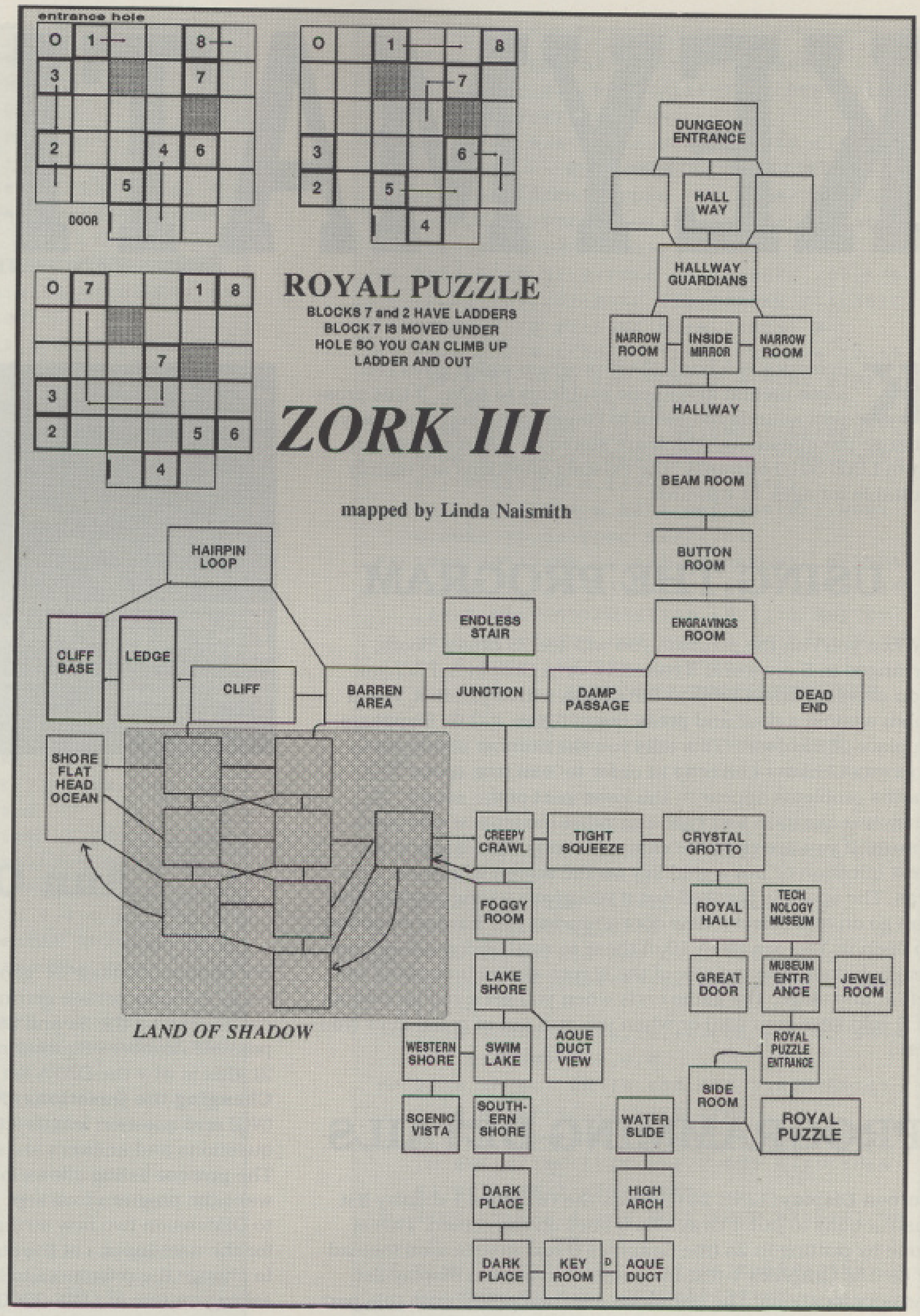
Back in the museum you find the Crown Jewels (would a ring possibly be part of the Crown Jewels - seems likely) amply protected by a steel cage. In the Museum of Technology you find, amongst other things, a weird golden machine. The ring you need, but the cage is impenetrable. Wouldn't it be nice if you could travel back in time, to before the cage was built? The cage, apparently, was built to protect the jewels after a dastardly attempted robbery - I wonder who that was!

Now you have all six items and if you have been kind to that old man you should know the way to the Dungeon Masters door. That is if you can get past the beam trap and the mirror trap and worst of all the guardians!! You would really have to be invisible to get past them!

Here you are at last wearing the hooded cloak, a large flashy ring on your finger, a strange amulet around your neck, with an ancient book tucked under your elbow, clutching an old key and leaning heavily (for your adventurer is pretty knackered by now) on a staff, knocking on the Dungeon Masters door. He opens a wee peephole in the door and scrutinizes you to make sure that you fulfil all the requirements. If satisfied he will then open the door and let you in to face the final challenge. He is perfectly willing to help you as he is keen to be off on his cheap-rate holiday to Spain but beware, a mistake here can send you into a terrible fiery pit and yet another untimely and painful death.

Again I have included some coded clues. The code is simple - just read the clues backwards and hopefully they will help you if you are stuck. The intention of the coding is to deter you from reading all the clues at once and thus, perhaps, spoiling your enjoyment of an excellent game.

Have a great adventure within the world of Zork III. Next time, perhaps, I will tell you about the fumblings and stumblings of an inexperienced Enchanter.



by Linda Naysmith

KEYMATICS

Keymatics is a fairly short program which gives you some mental arithmetic problems to solve. If this prospect sounds too awful to contemplate you can always change the questions, which are stored as DATA statements from LINE 5010 onwards. The existing questions are mainly suitable for ages 11 upwards.

USING THE PROGRAM

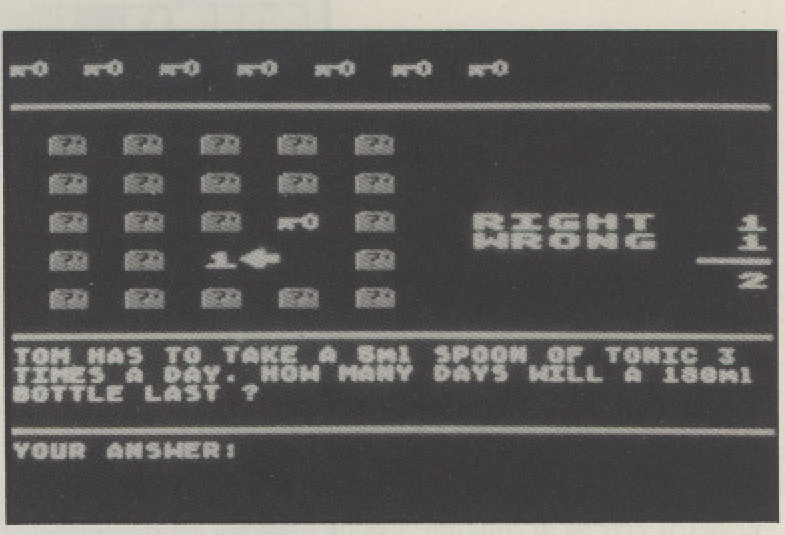
When you run the program you will see 25 brown doors, arranged in 5 rows and 5 columns, on a Graphics 1 screen. You move an arrow around the screen with a joystick. If you push against a door and press fire, a figure 1, 2 or 3 appears in place of the door:- This tells you the number of questions you must answer correctly in order to "win" the space. The maths problems appear in the lower part of the screen. To answer a question just type a number (no letters) and press return. If you are right the computer will either go on to the next question or put a gold key on the screen where the door was. The space is blanked out if you give a wrong answer. You can go on and select a new door provided you have a green key to open it: You are given 10 of these to start and you need one for each door. The top row of the screen shows how many are left at any stage. The game ends when you get a row or column of 5 gold keys (you win) or when you run out of green keys (you lose).

PROGRAMMING DETAILS

Screen Display: LINE 2010 alters the Graphics 1 display list instructions to put 4 Graphics 0 lines on the screen. This is done by putting in 2s (the Graphics 0 text instruction) instead of 6s (the Graphics 1 text instruction) in certain display list memory locations. The questions are then poked onto this part of the screen using the subroutine beginning at LINE 400. This leaves the text window free for printing the player's answer plus the right/wrong message. It also means that fairly long maths problems can be used without cluttering up the screen and that long questions and answers can appear on the screen at the same time.

Arrow Graphic: The 4 arrow positions (i.e. facing East, South, West and North) are defined as user graphics using the characters ( ) * and + . These appear consecutively in memory and are represented by CHR$(40) to CHR$(43). LINE 2160 defines a variable "G" as being equal to 1 (for East), 2 (for South), 3 (for West) or 4 (for North) depending on the direction in which the joystick is pushed. The arrow printing routine then prints one of the characters - CHR$ 40, 41, 42 or 43 - according to the value of G [viz. ? #6;CHR$(39+G)].

Number of Questions: The number of questions per door is determined by the variable NN in LINES 2240-50: NN is initially set at 1 but may increase to 2 or 3 depending on the value of



by

Ann O'Driscoll

the random number "R" generated in LINE 2240. To stop a really unlucky person getting loads of questions, a limit of 5 each is put on the 3s and 2s. This means that the maximum possible number of questions per game is 25 (5 X 3 plus 5 X 2); this is why the DATA list has 25 problems in all.

Changing the Questions: The maximum number of questions (NQ) and question length (LQ) are set up in LINE 30 and the questions and answers are stored from LINE 5010 onwards. The present listing allows for numeric answers only. If you want the program to accept string answers instead you'll need to DIMension two new strings - one for the answers and one for the user input - at the start of the program. You'll also need to change the references to "ANS" and "TRY" in the question asking routine at LINE 2300. For instance, if your new strings are ANS$ (for question answer) and TRY$ (for player answer) just change "TRY" to TRY$ and "ANS" to ANS$ in LINES 2310 to 2340 and leave out the STR$( ) in LINE 2340.

Detecting Wins: The doors are located on the screen at rows 1, 3, 5, 7 and 9 and at columns 4, 6, 8, 10 and 12 (set up in LINE 2020). Two numeric arrays - C (for column) and R (for row) are used to keep track of the score. The variables X2 and Y2, determined by the joystick movement routine, are the column and row co-ordinates of the "current" door. LINE 2280 adds 1 to the X2 and Y2 arrays when a door's questions have been answered correctly; a value of 5 in an array means that a line of 5 doors has been won and then the win message (LINE 2600) is called up.

That's about it - I hope that you enjoy using KEYMATICS and also that the above account of how the program works might be of help if you wish to use some of the routines in programs of your own.

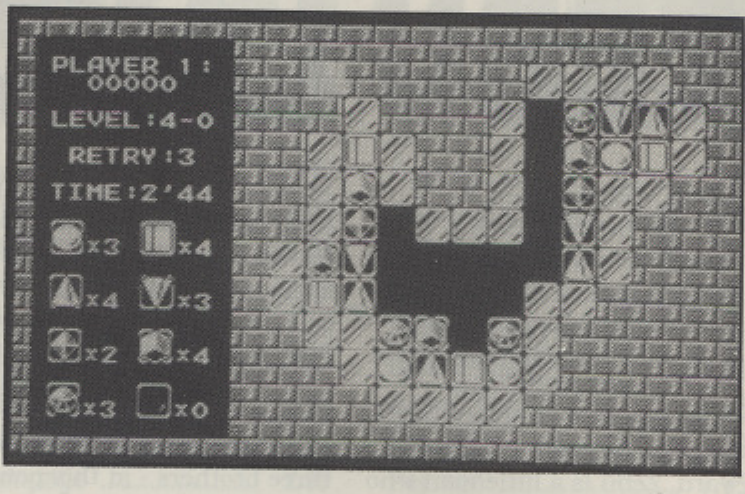
KEYMATICS

```
EI 1 REM *******************************
OK 2 REM *          KEYMATICS           *
RQ 3 REM *              by              *
SR 4 REM *        Ann O'Driscoll        *
EC 5 REM * ---------------------------- *
TI 6 REM * NEW ATARI USER - FEB/MAR 92 *
EO 7 REM *******************************
NN 8 REM
AR 29 REM  KEYMATICS: SET THINGS UP 
HT 30 NQ=25:LQ=100:N2=0:N3=0:RI=0:WR=0:K=10:G=1:PK=400:ASK=2300
JI 50 DIM Q$(LQ),SC$(LQ),BL$(LQ),M$(34),F(NQ),A$(1),C(9),R(12)
SY 60 BL$(1)=" ":BL$(LQ)=" ":BL$(2)=BL$:M$=BL$:FOR N=0 TO 9:C(N)=0:R(N)=0:NEXT N:FOR N=10 TO 12:R(N)=0:NEXT N
IC 90 GOTO 1000
EM 399 REM >> POKE THINGS TO SCREEN
JJ 400 FOR W=1 TO LEN(SC$):POKE SC+SC1+W,ASC(SC$(W,W))-32*(ASC(SC$(W,W))<96)
DQ 410 IF SC1=345 THEN SOUND 0,P,10,12:FOR D=1 TO 30:NEXT D:SOUND 0,0,0,0
RY 420 NEXT W:RETURN
GF 999 REM  TITLE SCREEN  1000 - 1130 
WO 1000 GRAPHICS 0:DL=PEEK(560)+256*PEEK(561):POKE DL+6,6:POKE DL+7,7:POKE DL+26,6
GR 1010 POKE 708,138:POKE 709,14:POKE 710,144:POKE 711,26:POKE 712,144:POKE 82,0:POKE 83,39:POKE 752,1
XX 1015 FOR N=50 TO 0 STEP -1:SOUND 0,N,10,10:NEXT N:POKE 16,64:POKE 53774,64
IK 1020 POSITION 15,0:? "Presenting":POSITION 22,1:? "k e y m a t i c s":? :?
PB 1030 ? " There are mental arithmetic questions  hidden behind the doors on the screen."
XM 1035 ? "You get 10 keys and you need one to openeach door. Pick a door with the joystick";
GA 1040 ? "and press fire to open it. You win the  door by correctly answering the number"
OR 1045 ? "of questions shown for it. Just type an answer and press RETURN. The objective"
TQ 1050 ? "is to get a row or column of 5 gold keysand you get one for each door you win."
BM 1055 ? "You lose a door if you answer a questionwrongly so be careful!":POSITION 6,19:? "Wait a bit..."
BQ 1060 NB=152:POKE 106,NB-1:RAMB=NB*256
QF 1080 RESTORE 4000:FOR N=1 TO 34:READ MC:M$(N,N)=CHR$(MC):NEXT N:M=USR(ADR(M$),RAMB)
JE 1090 FOR N=1 TO 3*8:READ DTA:POKE RAMB+16-1+N,DTA:POSITION 20,19:? INT(8-N/8);" ";:NEXT N
HH 1095 FOR N=25 TO 7*8:READ DTA:POKE RAMB+40-1+N,DTA:POSITION 20,19:? INT(8-N/8);" ";:NEXT N
TA 1100 POSITION 6,19:? BL$(25):POSITION 0,20:? "PUSH start TO BEGIN":PE=PEEK(711)
SN 1110 IF PEEK(53279)=6 THEN 2000
TI 1120 POKE 711,PEEK(711)-2:IF PEEK(711)<4 THEN POKE 711,255
DJ 1130 FOR D=1 TO 12:NEXT D:GOTO 1110
PD 1999 REM --  GAME SCREEN  2000-2060 
UN 2000 GRAPHICS 1:POKE 756,RAMB/256:POKE 752,1:DL=PEEK(560)+256*PEEK(561):SC=PEEK(88)+256*PEEK(89)
CX 2010 POKE 82,0:POKE 83,39:POKE 708,170:POKE 709,252:POKE 710,0:POKE 711,38:FOR N=20 TO 23:POKE DL+N,2:NEXT N
FV 2020 FOR N=1 TO 9 STEP 2:FOR M=4 TO 12 STEP 2:COLOR 130:PLOT N,M:NEXT M:NEXT N:FOR N=0 TO 19 STEP 2
NK 2030 POSITION N,0:? #6;CHR$(35):NEXT N:FOR N=0 TO 19:POSITION N,2:? #6;CHR$(4);:POSITION N,14:? #6;CHR$(4);
TT 2040 POSITION N,23:? #6;CHR$(4);:NEXT N:POKE 16,64:POKE 53774,64
EB 2050 POSITION 12,8:? #6;"RIGHT  0":POSITION 12,9:? #6;"WRONG  0":POSITION 18,10:? #6;"$$":POSITION 19,11:? #6;"0"
QD 2060 X2=0:Y2=4:FOR N=1 TO NQ:F(N)=0:NEXT N:POKE 764,255:GOTO 2200
ZT 2149 REM --  PLAY LOOP  2150 - 2290 
BL 2150 IF K=0 THEN 2610
HW 2155 S=STICK(0):IF S=15 THEN 2155
JB 2160 G=1*(S>4 AND S<8)+2*(S=13)+3*(S>8 AND S<12)+4*(S=14)
NF 2165 X2=X2+(S=7 AND X2<10)-(S=11 AND X2>0):Y2=Y2+(S=13 AND Y2<13)-(S=14 AND Y2>3)
GH 2170 POSITION X1,Y1:? #6;BL$(LQ)
EG 2200 LOCATE X2,Y2,C
NZ 2210 IF C<>130 AND C<>3 THEN POSITION X2,Y2:? #6;CHR$(39+G):X1=X2:Y1=Y2:GOTO 2150
JC 2220 SOUND 0,150,10,10:FOR D=1 TO 50:NEXT D:SOUND 0,0,0,0
PP 2230 IF C=3 OR (C=130 AND STRIG(0)=1) THEN X2=X1:Y2=Y1:GOTO 2200
ON 2240 K=K-1:POSITION K*2,0:? #6;BL$(LQ):R=RND(0):NN=1:IF R>0.7 AND N3<5 THEN N3=N3+1:NN=3:GOTO 2260
IL 2250 IF R<0.4 AND N2<5 THEN N2=N2+1:NN=2
SF 2260 POSITION X2,Y2:? #6;CHR$(48+NN):POSITION X1,Y1:? #6;CHR$(39+G)
TD 2270 FOR V=15 TO 0 STEP -1:SOUND 0,32,10,V:SOUND 1,27,10,V:SOUND 2,20,10,V:SOUND 3,43,10,V
LL 2275 FOR D=1 TO 10:NEXT D:NEXT V:FOR N=1 TO NN:GOSUB ASK:IF P=80 THEN POP :GOTO 2290
LQ 2280 NEXT N:POSITION X2,Y2:? #6;CHR$(3):C(X2)=C(X2)+1:R(Y2)=R(Y2)+1:IF C(X2)=5 OR R(Y2)=5 THEN 2600
WX 2290 FOR N=30 TO 10 STEP -1:SOUND 0,P*2,10,10:NEXT N:SOUND 0,0,0,0:GOTO 2150
ZO 2299 REM --  ASK ROUTINE 2300 - 2390 
EY 2300 Q=INT((RND(0)*NQ)+1):IF F(Q)<>0 THEN 2300
```

KEYMATICS

```
RQ 2310 F(Q)=1:RESTORE 5000+(10*Q):READ Q
   $,ANS:SC$=Q$:SC$(LEN(SC$)+1)=" ?":SC1=
   299:GOSUB PK:M$=BL$
ZU 2320 TRAP 2400:? CHR$(125);"YOUR ANSWE
   R: ";:INPUT #16;TRY
GB 2330 IF TRY=ANS THEN P=20:M$="CORRECT!
   ":RI=RI+1:POSITION 20-LEN(STR$(RI)),8
   :? #6;RI:GOTO 2350
IZ 2340 P=80:M$="NO, IT'S ":M$(LEN(M$)+1)
   =STR$(ANS)
DU 2345 WR=WR+1:POSITION 20-LEN(STR$(WR))
   ,9:? #6;WR
UI 2350 POSITION 20-LEN(STR$(RI+WR)),11:?
   #6;RI+WR
NY 2360 M$(15)="PRESS  FIRE ":SOUND 0,P,1
   0,12:? "↓";M$:FOR D=1 TO 99:NEXT D:SOU
   ND 0,0,0,0
YV 2370 IF STRIG(0)<>0 THEN 2370
JH 2380 ? CHR$(125);:SC$=BL$:SC1=299:GOSU
   B PK:A$=CHR$(48+NN-N):IF P=80 THEN A$=
   " "
FT 2390 POSITION X2,Y2:? #6;A$:RETURN
PD 2399 REM -- INPUT ERROR TRAP --
NI 2400 ? CHR$(253);CHR$(125);"NUMBERS ON
   LY PLEASE!":FOR D=1 TO 999:NEXT D:GOTO
   2320
NF 2599 REM --  GAME OVER   2600 - 2670 
MV 2600 SC$="CONGRATULATIONS! YOU'VE WON!
   ":P=60:GOTO 2620
KU 2610 SC$="SORRY - YOU HAVE NO KEYS LEF
   T!":P=200
SL 2620 SC1=345:GOSUB PK:? CHR$(125):POKE
   657,11:? "↓↓PLAY AGAIN?  Y/N":POKE 76
   4,255
NC 2630 POSITION 4,23:? #6;" game over ":
   FOR D=1 TO 50:NEXT D:POSITION 5,23:? #
   6;BL$(92):FOR D=1 TO 50:NEXT D
VT 2650 IF PEEK(764)<>35 AND PEEK(764)<>4
   3 THEN 2630
DM 2660 IF PEEK(764)=43 THEN RUN
WB 2670 GRAPHICS 0:POKE 82,2:POKE 752,0:P
   OKE 764,255:END
CN 3999 REM  M/C FROM PAGE 6 NO. 35 
QV 4000 DATA 104,104,133,207,104,133,206,
   169,0,133,204,169,224,133,205,162,4,16
   0,0,177
LO 4010 DATA 204,145,206,136,208,249,230,
   205,230,207,202,208,242,96
SI 4019 REM  NEW CHARACTERS 
UT 4040 DATA 126,199,245,229,239,255,239,
   255
CP 4050 DATA 0,2,5,253,69,229,162,0
MA 4060 DATA 0,0,0,255,255,0,0,0
WM 4070 DATA 0,24,28,254,255,254,28,24
RX 4080 DATA 56,56,56,254,254,124,56,16
QF 4090 DATA 24,56,127,255,127,56,24,0
OO 4100 DATA 8,28,62,127,127,28,28,28
DR 5000 REM  QUESTIONS AND ANSWERS 
WF 5010 DATA 200 BOYS STARTED THE RACE. I
   F 5% GAVE UPBEFORE THE END HOW MANY BO
   YS FINISHED,190
QG 5020 DATA IN A CLASS OF 40 GIRLS 90% G
   OT THE SUM  RIGHT. HOW MANY GIRLS GOT
   IT WRONG,4
XD 5030 DATA 80% OF THE CLASS DON'T LIKE
   RICE. IF 6  PUPILS DO LIKE IT HOW MANY
   CHILDREN ARE IN THE CLASS,30
YC 5040 DATA JOE HAS 3 TIMES AS MANY BOOK
   S AS ANN. IFTHEY HAVE 36 BETWEEN THEM
   HOW MANY HAS  ANN,9
GL 5050 DATA HOW MANY 25g PACKETS OF SWEE
   TS CAN I    FILL FROM A BAG WEIGHING 1
   KILO,40
KP 5060 DATA SUE WEIGHS 28Kg. JIM WEIGHS
   2.5 TIMES   MORE. HOW MANY Kgs DOES JI
   M WEIGH,70
DQ 5070 DATA IF JANE DRIVES AT 80KM PER H
   OUR HOW MANYKM DOES SHE TRAVEL IN 2.5
   HOURS,200
IJ 5080 DATA LEN'S CLASS HAS 4 GIRLS TO E
   VERY 5 BOYS.IF THERE ARE 36 PUPILS IN
   THE CLASS HOW MANY ARE BOYS,20
FS 5090 DATA WHAT NUMBER DO YOU GET IF YO
   U INCREASE  50 BY 2%,51
PY 5100 DATA WHAT DO YOU GET IF YOU INCRE
   ASE 2.5 BY  10 PER CENT,2.75
OM 5110 DATA WHAT IS THE LOWEST COMMON MU
   LTIPLE OF 4 AND 6,12
ZE 5120 DATA HOW MANY GRAMMES IN 1.25 KIL
   OGRAMMES,1250
WS 5130 DATA THE AVERAGE AGE OF 3 GIRLS I
   S 16. ONE   GIRL IS 18 AND ANOTHER IS
   13. HOW OLD ISTHE THIRD GIRL,17
SY 5140 DATA THE SUM OF TWO NUMBERS IS 40
   . THEIR     DIFFERENCE IS 4. WHAT IS T
   HE LARGER     NUMBER,22
CF 5150 DATA THERE ARE 5 MORE GIRLS THAN
   BOYS IN A   CLASS OF 41 CHILDREN. HOW
   MANY GIRLS AREIN THE CLASS,23
XV 5160 DATA JOE CAN TYPE 25 ENVELOPES IN
   10 MINUTES.HOW MANY CAN HE TYPE IN ON
   E HOUR,150
JR 5170 DATA WHEN YOU MULTIPLY A NUMBER B
   Y 7 AND ADD 8 TO THE ANSWER YOU GET 50
   . WHAT IS THE NUMBER,6
PA 5180 DATA WHEN YOU MULTIPLY THREE NUMB
   ERS YOU GET 96. TWO OF THE NUMBERS ARE
   3 AND 8. WHATIS THE THIRD,4
OI 5190 DATA IF THE PERIMETER OF A RECTAN
   GLE IS 54 CMAND THE WIDTH IS 12 CM HOW
   MANY CMS LONGIS IT,15
XR 5200 DATA TOM HAS TO TAKE A 5ml SPOON
   OF TONIC 3  TIMES A DAY. HOW MANY DAYS
   WILL A 180ml BOTTLE LAST,12
OT 5210 DATA HOW MANY METRES IN 0.8 KILOM
   ETRES,800
AN 5220 DATA WHAT NUMBER IS HALFWAY BETWE
   EN 17 AND   31,24
YA 5230 DATA SAM HAD 96 SWEETS. IF HE ATE
   5/8 OF THEMHOW MANY HAD HE LEFT,36
CF 5240 DATA WHAT IS THE AVERAGE OF 21 17
   AND 16,18
HV 5250 DATA HOW MANY HOURS ARE THERE IN
   ONE WEEK,168
```

CULTIVATION & CHROMATICS



Ke-Soft have a habit of producing arcade-style puzzle games with above average graphics, great sound and a generous helping in the playability department. The characteristics of this disk-based double from the German programmers should therefore come as little surprise.

CULTIVATION is a variation on the Puzznic theme, a game in which the player is required to remove symbolically painted blocks from a series of ever-more-challenging screens. What you must do is push two or more identically marked blocks together by dragging them into a suitable location with the joystick pointer, so that they explode and disappear. To advance onto a higher level you must clear the entire screen before the timer reaches zero. It seems easy at first but later you discover that a sound strategy is essential. The blocks can slide sideways and drop downwards but can't be moved back up again, so you've got to think carefully to avoid a no-win situation.

Both sonics and graphics in Cultivation are excellent. The game kicks off with an excellent piece of music and at certain points in the game there are short bursts of digitised speech, just like it's done on the ST (ah yeah!). The screens are displayed in the highest resolution possible, so there's not a lot of colour but it does look very professional. In case you get bored with the hundred screens supplied, the disk contains an editor so you can build your own!

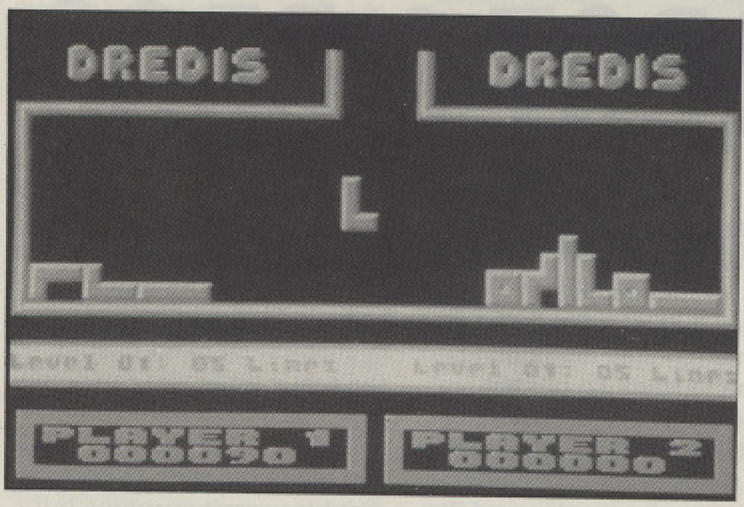
Flip the disk and you'll find CHROMATICS, a simplified version of the ever-popular Tetris. The idea is to rearrange descending blocks so that they settle to form horizontal or vertical lines of identical colour - which duly disappear. The blocks are all the same shape but consist of three coloured segments. As a block drops towards base you can use the joystick to rearrange the position of the segments to your best advantage. The game starts off rather slowly but when you eventually make it to the higher levels there's less room to manoeuvre and more colours to organise. The graphics aren't bad though the music is probably better silenced!

Cultivation and Chromatics are two more high quality products from Ke-Soft. If cassette-based users were ever looking for an excuse to splash out on a disk drive, this great range of German imports is surely the answer to their problems!

Title:	**CULTIVATION & CHROMATICS**
Publisher:	**Ke-Soft/Excel**
Price:	**£7.99**
Format:	**Disk**
Players:	**1**

Reviewed by Paul Rixon

DREDIS



As you might have expected of a game whose title ends with the letters 'is', DREDIS is yet another variation on the Tetris theme. Personally I'd like to see a proper clone of the original game but programmers seem more inclined to produce these 'alternative' versions!

The main difference between Dredis and 'traditional' Tetris is the shape of the playing area. It takes the form of an inverted 'T' shaped well, consisting of a wide base and a narrower chute from which the various geometric blocks appear. Rather than stacking up at the bottom of the screen, the blocks float either to the left or right and deposit at the far sides of the lower portion. When a block first appears you can determine in which direction it should travel, then as it heads for the chosen extreme you can adjust the vertical position and also rotate it by pressing the joystick trigger. The aim, of course, is to construct solid vertical lines which are automatically eliminated, so creating sufficient space for subsequent blocks to be positioned. You're required to score a fixed number of lines on each level to advance onto the next. As you progress onto higher stages obstacles are placed in the way so it's harder to complete the necessary lines. Any misplaced blocks on either side inevitably force gameplay towards the centre of the well - if a block should come to rest at the mid-point of the screen, it's all over.

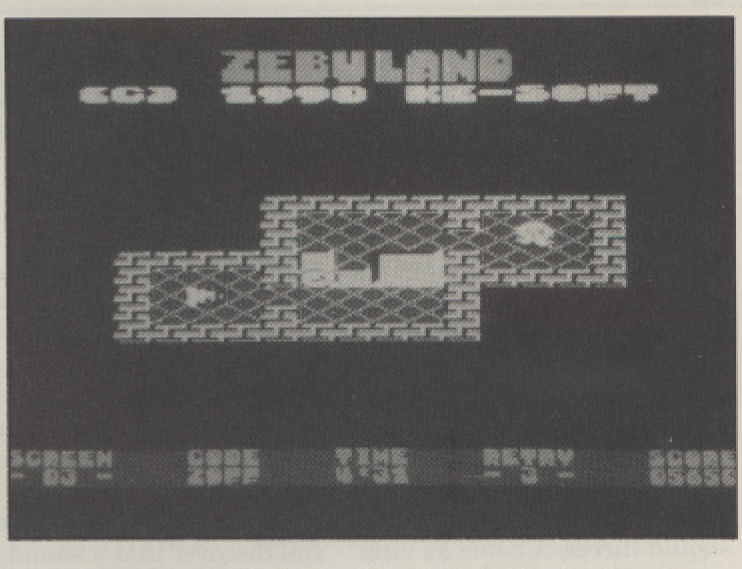
The graphics are quite simple and, to be honest, could be much better. The blocks seem rather flickery and the use of colour is somewhat conservative. The music isn't bad but becomes annoying after a while - unfortunately an option to have sound effects instead isn't documented. However there's no denying that Dredis is an addictive game (like all Tetris variants) and it's nice to see a two player mode also included.

Given the relatively high asking price, I think Dredis would be more wisely marketed as one part of a double pack - in a similar manner to some of the other disks reviewed in this issue. If you're a Tetris addict who's played all the other games of this nature, it's bound to be a worthwhile addition to your collection. If not, check out the Public Domain first as you can certainly find a superior version of Tetris there.

Title:	**DREDIS**
Publisher:	**Ke-Soft/Excel**
Price:	**£7.99**
Format:	**Disk**
Players:	**1/2**

Reviewed by Paul Rixon

ZEBU LAND



Did you enjoy Ke-Soft's brilliant 'Sogon' puzzle? If so you'll be pleased to hear that Excel have imported another similarly addictive challenge from the German publishers.

The objective of ZEBU LAND couldn't be more straightforward. Zebu is a little man who lives in a curious world of mazes. Zebu's world is divided into fifty separate screens and on each level your task is simply to guide him to an exit. It may sound ridiculously simple but the mazes aren't always quite as friendly as they seem. Revolving doors can be tricky to negotiate, especially as sometimes they're blocked by fixed or movable obstacles on the opposite side. Blocks of various shapes and sizes can be pushed around the maze into useful positions - often they provide the only means of escape. Sometimes Zebu is joined by one or more of his three brothers - at this point you can toggle between the different characters with a press of the joystick trigger. All must be transported safely home to complete the level. Unfortunately extra hands don't always make light work! The puzzles are cleverly designed and it's wise to remember that everything has a purpose - the problem is finding out what!

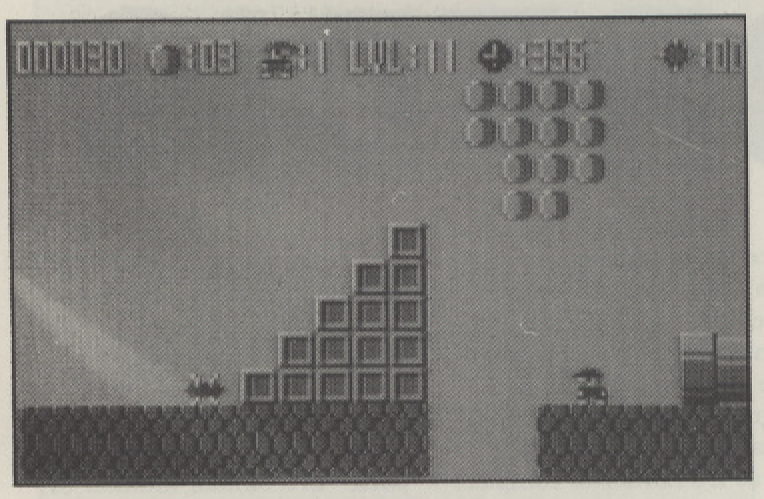
The reason the whole experience is so addictive is that initially some of the screens appear to be completely impossible - until suddenly you discover the simple trick or sequence of actions that's needed to solve them! Whilst you're struggling through the mazes, you've also got to keep a watchful eye on the timer - if it hits zero, one of your three lives is terminated. Since there's a possibility you could manoeuvre Zebu into a stalemate situation, the Option key can be used to bring about a speedy demise! A welcome feature is that every screen is password coded so once you've mastered a level you won't have to repeat it in future sessions.

The graphics aren't exactly stunning but they're not worse than hundreds of other games I could mention! The overall game design shares several similarities with the equally praiseworthy Sogon, which I reviewed in Issue 52. The loading screens are very nicely done and music on the title page is a bright and breezy composition, quite different to the norm.

Zebu Land gets my vote as the best non-violent entertainment package for 1991. The ingeniously simple theme, professional presentation and craftily designed puzzles combine into a perfect mixture.

Title: **ZEBU LAND**
Publisher: **Ke-Soft**
Price: **£7.99**
Format: **Disk**
Players: **1**
Reviewed by Paul Rixon

TABOT & BROS



Another Ke-Soft twin-pack presented by Excel. Both games are multi-screen platform style adventures but that's where the similarity ends!

TABOT is a robot super-hero who's somehow managed to get himself trapped inside a spooky castle. In order to escape he's got to locate a series of keys from each of its fifty rooms, but the problem isn't quite that simple. To make things a little more tricky there are vicious spiders, gaping holes, spikes, boulders and break-away floors to contend with. Tabot can use his 'versatile' laser gun to smash through rocks and he can build laser bridges to traverse the dangerous openings. If it all seems too much to cope with, he can call a 'dummy' to the rescue - with one key press Tabot is instantly transported to the dummy's side. Failing this, it's time to forfeit an existence!

Now for the bad news. This has to be Ke-Soft's least playable game to date! The graphics are nowhere near the standard set by other Ke-Soft releases and worse is the fact that joystick response is quite abysmal. It's far too easy to unintentionally lose a life. I began to think I'd missed something obvious, but after studying the instructions several times over I eventually gave up in frustration and flipped over the disk. Fortunately, here was something in a different class.

Although it could be an awful pop group, BROS is actually a very addictive clone of the arcade game Super Mario Brothers. Your task is to rescue your brother from imprisonment in a secret castle. An unusual option on the opening screen is a chance to select an alternative resolution. You can have a large full-screen playfield or a smaller but smoother display in the central portion (Antic 5 or 4 respectively). As you run and jump athletically through the many screens you must watch out for the nasties and also keep an eye open for a range of goodies. By head-butting the castle walls you can sometimes pick up mushrooms, coins and ammunition to help you along the way. The graphics aren't stunning but they're adequate for the purpose and the way your character bounces across the platforms can be quite amusing. Sound is enhanced by snatches of digitised yells at appropriate moments. Overall, Bros is a thoroughly enjoyable game. Alas not Tabot!

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Publisher: **Ke-Soft/Excel**
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WHY OH WHY?

Gordon F. Hooper asks the questions that sooner or later plague every Atari owner

Why do we computer users generally have upwards of two hundred disks of which we use, at the most, five? If you're like me, you raided the public domain library of your user group when you first joined. I know I obtained approximately 100 disks which I took home, tried once and never used again. Another member I know has correspondence with two out-of-town users and they are constantly swapping disks. Why? What is the sense of spending money for postage when you can get disks you never use from your own club for free?

What am I going to do with all the documentation I printed out from those disks? I always picked up the useless disk at the club library, went back home and dumped the docs out to my printer, then neatly bound them in folders. After that, I never used the docs again. They are now posing a fire hazard on my desk.

Why do the docs on public domain disks always print out in 40 columns? That has the effect of doubling the previously mentioned fire hazard.

Did you ever stop to think why you need an interface rather than a simple connecting cord to connect your printer to the eight-bit computer? The sadistic designers of these things do this so they can install a second set of DIP switches. This is done so that the poor user will be driven up the wall trying to coordinate the two sets of switches. It's enough to make you take up collecting spoons as a hobby.

Why does the wonderful disk which you saw demonstrated at the computer store turn into something which is useful only as a coaster after you pay $49.95 for it? Does the exchange of cash trigger something which turns a disk into worthlessness the instant you try to boot it up at home? Can you think of any other reason I have $1149.68 worth of disks good for nothing better than contributing to the landfill problem in my area? This could be more insidious than the most venomous virus.

Does sitting in front of a VDU for a couple of hours or more every day contribute to the liquefaction of brain cells? What other reason would cause otherwise rational human beings to play computer games for hours on end? I have one game where the outcome every time I play is that the evil Overlord of some stinking little planet I never heard of before sticks his atomic laser cannon up my left nostril. This happens every time I play the game, yet I always boot it up again. Until this started happening I had gone blissfully through life thinking that my Momma hadn't raised no stoopid kids. I guess I'll have to reconsider that as soon as I finish the game.

Using a modem also leads you into doing things you wouldn't want to admit to. A $324.23 phone bill can be difficult to explain to your spouse. It's bad enough if you actually called and talked to an old drinking buddy by voice for that amount. If you have to explain that you were downloading files, minor wars can erupt. Particularly if they end up like the disks in a previous paragraph that no sane man can find a use for, aside from using them to start campfires. I would have to be living in Neanderthal times before I'd ever want to start that many campfires.

Modems have another danger for the unwary user. This happens when you are on a long-distance BBS and the sysop enters into chat mode. This means that you and he can type back and forth to your hearts content. The problem lies in the fact that I type at the rate of 2 1/2 words per minute. After we've been typing back and forth for half an hour, It suddenly occurs to me that I could have phoned him by voice and had the whole conversation in less than two minutes. I guess it's more fun to do it slow when it's costing you $1.63 a minute!

Why do I always have to buy a computer when it's first introduced? I paid $600 for my first Atari 800. It cost $500 for my 130XE. I paid far in excess of $1000 for my ST. How do I get it to penetrate into my brain that if I wait for a year and a half after a computer is introduced, it generally is selling for what is practically chump change? Why do I always assume that the latest computer that Atari is selling will be the one that I need and I will never have to buy another one? My local computer salesman, who is working on commission, must thank whatever demented gods he worships when he sees my excited face walk in the door. He'd better pray to his unclean spirits that I can afford to finance his retirement before I run out of coin of the realm. I know Atari will never run out of new computers.

Speaking of new computers, why are they always incompatible with the old ones? Each computer manufacturer has a line of machines which are compatible with other similar ones in the line. This only pertains until a new computer with ten times the memory and a far superior DOS is developed. Then it is mandatory that it be made incompatible with the earlier ones. This might contribute to higher gross profit revenues for the manufacturer, but I'm going to end up with an electronic junkyard in my computer room.

If and when I die, I'm going to ask in my will that my latest Atari computer be buried with me. That way I will have the means to categorize all the designers, commissioned salesmen and useless public domain software authors that will be with me in the nether reaches of Hell. You don't want to think about what I will do with this information. But I just know I will have some position of authority down there.

contact ... contact ... contact ... contact

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XE SYSTEM: 130XE, XF551 disk drive, XC12 recorder, disk box, disks, games, books, everything in as new condition and boxed. Bargain at only £220. Tel. 021 742 8038

XE SYSTEM: In excellent condition, latest 65XE, 1050 drive, 1027 printer, touch tablet, 300 games and software in disc boxes. Mounted on computer trolley for tidyness. Only £175. Phone 0507 363240 (Nr. Grimsby)

XE SYSTEM: 130XE computer, 1050 disk drive (with Lazer/US Doubler) and SMM804 printer plus software, games etc. £245 o.n.o. Tel. 0664 424455

INTERFACE: 850 interface with printer cable, Mini Office II and manual, £40 o.n.o. Also books, De Re Atari, Tech. Notes, many Antic, Analog, Monitor, PAGE 6, Atari User and other Atari books, cheap to a good home. Tel. 0532 866149

XE SYSTEM: Suffolk user has 130XE, 1050 drive, printer I/F, OSS Basic XE and books, £160. Consider split. Phone (0284) 767775 evenings for full details

WANTED

DISK DRIVE: Wanted urgently, compatible with 800XL. Will pay up to £70 inc. p&p. Write to John Hubbock, 38 Conifer Close, Walton, Liverpool, L9 1JW or phone 051 523 9966

HARDWARE: Wanted in order of preference, 850 interface, 1027 printer, 1029 printer or even 1020 printer for enthusiast in Corfu. Tel. (UK) 0256 764507, Peter Kirkby

DE RE ATARI: Copy of De Re Atari, must be in good condition. Will pay good price. Phone Paul on 061 872 2814

OLD ARCADE GAMES: I particularly want Gyrus, Frogger and Popeye (tape, disk or ROM). Phone Andy Scales on 0287 624811 or write to 117 Wilton Bank, Saltburn, Cleveland, TS12 1NS

LEADERBOARD: Has anyone got a copy of Leaderboard (Golf) on cassette. Will pay or swap for another game. Contact David Fare on 0492 596109 or at 7 Maes-Y-Llan, Gyffin, Conwy, Gwynedd, LL32 8NB

HARDWARE: Atari freak wants broken bits of Atari hardware (not 2600). Will pay postage and small price. Please write with details to Russell Gilpin, 59 Grassington Road, St. Annes, Lancs, FY8 3QE

WAR GAMES: Conflict in Vietnam and Nato Commander, both on cassette. I will pay up to £25 for these games. If you are interested write to Yasser Nabi, 1176 London Road, Leigh-on-Sea, Essex SS9 2AH or phone 0702 75201

MORE OVERLEAF ☞

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP ...

contact extra... contact extra ...

DISK DRIVE: Wanted urgently, disk drive (1050) and printer (1020, 1027, 1029) for 800XL, all leads etc. needed. Must be in good working order. Reasonable price please. Contact Steve Bateman, 29A Stanley Road, London, E12 6RL

BASIC: Wanted basic Rev. C cartridge. Richard Carter, 73 Graswett Park, St. Saviour, Jersey JE2 7PQ

LEADERBOARD: Copy on cassette wanted as I can't find it anywhere in my area. Kevin Hannigan, Cummeen, Adare, Co. Limerick, Rep. of Ireland

MUSIC COMPOSER: Music Composer or other music software on disk or ROM which will enable the music to be printed using an Epson compatible printer. Phone Charles 081 462 5476, West Wickham, Kent

DISK DRIVE: XF551 or 1050 disk drive wanted in good working order and with leads and manuals. Will pay reasonable cost and postage. Please write to Fergus Ferguson, Lough Gur, Bruff. Co. Limerick, Eire

DIGITISER: Wanted graphic digitiser for the 8-bit computer at reasonable price. Write to Nir Darey, P.O. Box 6002, Acco, Israel 24720

MAGAZINES: PAGE 6 issue 35 and any issues prior to 31. Also wanted, any issues of old Atari User magazine. Offering in exchange one program for every 2 mags (must be in good condition). Programs all original disks with original documentation inc. some hard to find titles (Karateka, Serpent's Star, Neverending Story etc.). Also looking for Compute!'s Atari Collection Vol. One. write to Ed Hall, 66 Morrison Drive, Yellowknife, Northwest Territories, Canada, X1A 2Z1

DISK DRIVE: Wanted 1050, 810 or XF551 disk drive. Trystan Negus, 23 Newbridge Way, Truro, TR1 3LX. Tel. 0872 77972

BOULDERDASH: Boulderdash 4 screens wanted, your own designs, I'm addicted. I am compiling a Boulderdash library and need your screens to help me. Send all you've got. I will return your tapes or disks with new screens of my own design and friend's designs, over 200 available. Approx. 40 screens per TDK C60 (1 side), 40 screens per disk side. Return postage will be paid by me. If you haven't any screens send for some free, enclose tape or disk and sae. I also urgently need a Sogon editor. Paul Kavanagh, 4 Ryecroft House, Tyersal Lane, Holme Wood, Bradford, BD4 0EW

DISK DRIVE: 1050 disk drive and games on disk, Boulderdash, Bounty Bob Strikes Back, Bruce Lee, Fort Apocalypse, International, Karateka. R.W. Watts, 268 Shenley Fields Road, Selly Oak, Birmingham, B29 5BH

PRINTER: Urgently wanted for 800XL. Details please to Bill, tel. Leeds 0532 796853

PENPALS/HELP

LEEDS CASSETTE USERS GROUP: The only group entirely dedicated to cassette users. For a free information pack please send a large stamped addressed envelope to Leeds Cassette User Group, 14 Hollin Hill Avenue, Leeds, LS8 2PP

TURBO BASIC: I'm currently getting together all information that I can on Turbo Basic. The end result will be a disk which is to be released onto the public domain. If you have any information on the subject then send it to me. All contributions will be listed on the disk. Here's you chance to be famous. Write to me at R. Espino, 111 Paston Ridings, Paston, Peterborough, Cambs. PE4 7UX

USA CONTACT: I would like to hear from fellow 8-bitters from around the globe. I have been using my Atari for 10 years and am looking for new sources of PD software as well as commercial mail order outlets. Please write to Ray Wilmott, 10, South Rhoda Street, Spotswood, NJ 08884, USA

PENPAL NEEDED: My name is Paul. I have a 130XE and XC12. I have around 20 games. I am new to the Atari scene and I would like to swap games and I would like some useful tips. Please write to Paul Nugent, 4 Pinebrook, Trim, Co. Meath, Ireland

PENPALS WANTED: In the Leicestershire area. I have a 800XL with a 1050 disk drive with various disks plus some cassettes. If you would like to swap please contact Warren Whiteman, 19 Breadcroft Lane, Barrow-on-Soar, Loughborough, Leics, LE12 8HW

8-BIT PENPALS: I have a variety of 8-bit equipment and would like to correspond with any other 8-bit users. Write to Paul Saunders, 24 Tyler Road, Hazlemere, High Wycombe, Bucks, HP15 7NS

CONTACTS: Any 8-bitters worldwide to swap games, hint and tips. Disk based only please. All letters answered. write to Paul, 12 Treelands walk, Ordsall Park Salford. S. Manchester, M5 3FX

XL/XE PENPALS: Hi, my name is Ray. I have a 800XL, 2 1050 drives, printer etc. I would like to swap hints, tips and games, so if you are interested write to R. Robertson, 19 Littlebury Green, Basildon, Essex SS13 1PA or tel. 0268 584006

CONTACT is FREE of charge and may be used by any genuine Atari enthusiast for contacting other owners. Any notice may be included except those offering software only for sale or exchange or those offering items for sale commercially. The Editor reserves the right to omit any notice received at his discretion.

Send your CONTACT notice to CONTACT, PAGE 6, P.O. Box 54, Stafford, ST16 1DR. Please write your notice on a separate sheet of paper, not as part of a letter.

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP ...

THE ACCESSORY SHOP
ISSUE 54

BARGAIN SOFTWARE

We are still managing to uncover a few new items of software for your XL/XE so check all the new items this issue. Check the inside front cover and the following pages. Some items previously advertised are now sold out but there are still word processors for you to choose, from the most simple to the most complex, plenty of games and much serious software - the choice is yours. As always we are able to offer these items at considerably less than the recommended price so check through the Accessory Shop pages.

NEW!



ROM CARTRIDGE

BLUE MAX

One of the classics of Atari history! Blue Max is set in 1915 during World War I and has you flying a mission in a bi-plane fighter bomber along a river attacking enemy planes and bombing bridges and the enemy's airfields. Superb diagonal scrolling similar to Zaxxon makes this an exciting classic game.

Normally £14.95

OUR PRICE £7.95

DAVID'S MIDNIGHT MAGIC

BACK AGAIN!



ROM CARTRIDGE

Pinball on your Atari can become totally addictive as thousands of addicts to the famous Pinball Construction Set will testify. Now you can join in the fun with David's Midnight Magic, all the thrills of the pinball table on your screen. There are flippers, bumpers, drop targets and you can even 'shake' the machine. All of the action of real arcade pinball for up to four players

Normal price £14.95

OUR PRICE £7.95

BACK AGAIN!



ROM CARTRIDGE

EASTERN FRONT (1941)

The classic war simulation by Chris Crawford that astounded Atari users when it was first released. Based on the real life battle of Operation Barbarossa on the border of Russia you must command the forces through the savage Russian winter to see whether your skills can determine a different outcome from history. Easy to understand, difficult to win but an ideal introduction to computer wargaming. Definitely an Atari classic!

Recommended price £12.95

OUR PRICE £6.95

ROBOTRON 2084

NEW!



ROM CARTRIDGE

It's the year 2084, and you're the only being left who can defend humanity against the Robotron armies! You've got to move quickly to rescue the defenceless humans and blast fast with your anti-robot laser gun to shatter the oncoming waves of Grunts, Hulks, Brains, Spheroids, Electrodes and mutant Progs. Only you can save the last survivors!

Normally £12.95

OUR PRICE £6.95

BACK AGAIN!



ROM CARTRIDGE

US FOOTBALL

American Football is now a big craze in this country and you can now play at home. Outsmart the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video bowl game of your own in a packed stadium. All the thrills of the gridiron.

Normally £12.95

OUR PRICE £6.95

MOON PATROL

BACK AGAIN!



ROM CARTRIDGE

Your beat: Sector Nine, home of the roughest, toughest thugs in the galaxy. You have the finest patrol car on the force, complete with anti-gravity jump buttons and laser bullets, but you'll need more than a hot car in the rough terrain of Sector Nine. Blast UFOs. Leap over landmines. Demolish tanks and jump huge craters and moon rocks - just to survive. Great 3D graphics and good music add to the enjoyment of this addictive arcade conversion.

Normally £12.95

OUR PRICE £6.95



ROM CARTRIDGE

MASTERTYPE

Now anyone can learn to type whilst playing a challenging game. Mastertype was one of the original 'game based' typing tutors which requires you to zap enemy words as they approach from the four corners of the screen. But it not really a game for, before you realise it, you will become quite proficient on the keyboard as you progress through 18 lessons of increasing complexity.

Recommended price £14.95

OUR PRICE £2.95

MISSILE COMMAND

BACK AGAIN!



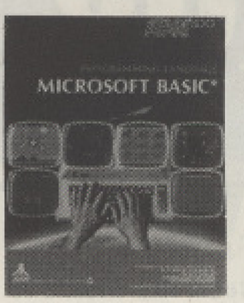
ROM CARTRIDGE

Another of the all-time classic arcade games that has you defending cities from missile attack. Command the defence guns as enemy missiles rain down from space to attack your cities. Later smart missiles and bombers will appear making the action more and more frantic. For one or two players.

Normally £14.95

OUR PRICE £5.95

MICROSOFT BASIC



Microsoft Basic II is now sold out but you can still practice programming in the standard Basic if you have a disk drive. Microsoft Basic is ideal is you want to convert programs from other machines as it contains many of the commands that are missing from Atari Basic. You'll be able to share the creation of programs with other computer owning friends and maybe type in and adapt listings written on other computers.

DISK ONLY

Recommended price £9.95

OUR PRICE £5.95

TOUCH TYPING

BACK IN STOCK!



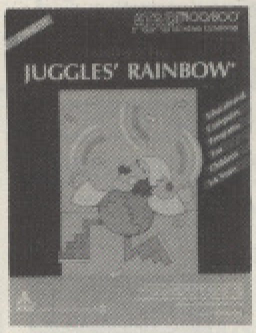
Everyone who uses a computer needs to brush up on their typing and now you can learn to type like a professional typist with this complete tutorial. Touch Typing presents a self paced method of learning by letting you practice typing letters, sentences and paragraphs. The computer determines words per minute, number of errors and your weak points. Random sentences are generated to drill you in those areas. Contains two cassettes and instruction manual.

Previously £19.95.

OUR PRICE £4.95

CASSETTE ONLY

JUGGLES RAINBOW



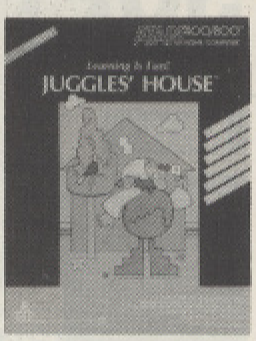
A first computer learning experience for children aged 3 to 6 that teaches the concepts of above, below, left and right plus letter recognition allowing the child to enjoy learning with colours and music and games they can create and play themselves.

OUR PRICE £5.95

DISK OR CASSETTE

NOW ALSO ON DISK!

JUGGLES HOUSE



Another for 3 to 6 year olds teaching the concepts of inside, outside, upper and lower with Juggles' House and Toyshelf. each game also includes a 'playground' where children can try out these new ideas for themselves.

OUR PRICE £5.95

SPECIAL OFFER - PURCHASE BOTH JUGGLES PROGRAMS FOR JUST £9.95

CASSETTE ONLY

INVITATION TO PROGRAMMING 2



Cassette users wishing to learn Basic programming can benefit from this tape based tutorial. The Invitation To Programming 2 set, entitled Writing Your Own Programs, comprises TWO cassettes and TWO workbooks and does not require Invitation To Programming 1. With these actual, on-screen, examples your programming books will come alive and you will be writing your own programs in no time. Start to program now at our bargain price!

Original Price £12.95

OUR PRICE £2.95

CASSETTE ONLY

LOWER PRICE!

LETTER WIZARD



For those who need a little more sophistication in a word processor, Letter Wizard gives you all of the basic features you would expect plus mail merge, print of selected pages, headers and footers, automatic page numbering and a whole host more print formatting styles. Although set up for Epson compatible printers or the NEC 8023, control codes can be sent direct to the printer. Comes with an easy to learn and use manual plus a handy Quick Reference card.

DISK ONLY

Original Price £19.95

OUR PRICE *NOW* £5.95

AVAILABLE AGAIN!

EASY PROGRAMMING FOR YOUR ATARI MICRO

This book went out of print 3 years ago and we have been searching for a replacement ever since. We are absolutely delighted to have found more stocks of one of the best beginner's books ever published. Over the past couple of years whenever someone has phoned for a beginners book on programming we have advised then to try and find a second hand copy of this book - now you can buy it once again, brand new! By the end of this book you'll be writing your own programs, including those with full graphics and sound.

NEW REDUCED PRICE £4.95

ATARI ADVENTURES

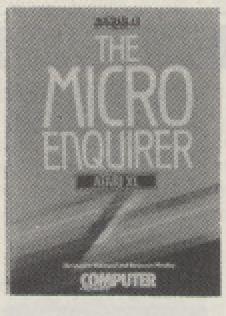


An excellent book written by adventure expert Tony Bridges covering adventures in general and showing how you can write your own adventures on the Atari. This book has in fact formed the basis for some of the adventure listings that have been published in PAGE 6. Tony will take you through examples of commercial adventures with lots of background to all different types of adventure and then show you how all these ideas can be put together in your very own adventure. There is a playable adventure listing called The Eye of The Star Warrior to show you just how it all comes together. Everything you need to know to write your first adventure.

Published price £5.95

OUR PRICE £1.50

MICRO ENQUIRER



A large format book that covers the world of micros in general with some specific Atari sections. The book contains a lot of worthwhile background information on home computing and is ideal for those who are recent converts or who want to expand their general knowledge of computers. It covers all sorts of topics including languages, bulletin boards, CAD, Data Processing, Printers, Artificial Intelligence and much more. There are a few Atari specific programs to illustrate various concepts but generally this book will fulfil a need to know more about the world of computing in general. Large format with over 180 pages.

Published price £8.95

OUR PRICE £2.00

WRITING STRATEGY GAMES

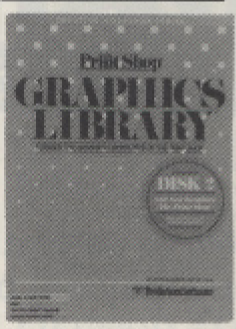


If you are fed up with simple arcade style games but are not sure of the maths required in writing 'thinking' games like chess here is a book that will help you out. To write games of strategy requires not only a knowledge of programming but also of certain mathematical and coding techniques. This book is pitched at an intermediate level, assuming that you already know some Atari Basic. Machine code programmers are also catered for with many hints on how to modify the routines. The book covers the programming theory behind intelligent games before moving on to practical examples of setting up a chess board, moving pieces and playing through. There are sample games for draughts, chess and other strategy games.

Published price £5.95

OUR PRICE £1.50

A Further Selection



LAST FEW!

PRINT SHOP GRAPHICS

The official PRINT SHOP Graphics Library comprises three separate disks each with 120 graphics and a printed out reference guide of the new icons. Disk 1 covers Holidays, Special Occasions, Sports and more, Disk 3 covers Business, Symbols, Mythology and others. ONLY No.s 1 and 3 NOW AVAILABLE.These are all top quality graphics in the original Broderbund Print Shop packaging.

Original Price £12.99 each

OUR PRICE £4.95 each

SPECIAL - BUY BOTH FOR JUST £8.95!

CAVERNS OF MARS

LAST FEW! DISK ONLY

Winner of one of the first Atari programming competitions, this was one of the first vertical scrollers and remains a much sought after original game. Descend through the caverns avoiding mines and picking up fuel. Highly playable and addictive, only one or two have made it to the bottom of the cavern to discover the secret that awaits them.

LAST FEW WITHOUT BOX BUT WITH FULL ORIGINAL MANUAL -

LOWER PRICE £4.95

TIMEWISE

REDUCED PRICE

Why not use your Atari as an electronic diary? Timewise allows you to keep track of all your appointments and important dates on a daily, monthly or yearly basis. Now you can dispense with your diary and let your Atari do the work. If you have a printer Timewise allows you to print out the information in a variety of ways.

DISK ONLY

Originally £22.99

OUR PRICE £3.95

MUSIC PAINTER

An exciting educational program that helps to teach music by using colours instead of notes. Change the fifteen supplied songs to feature different instruments, make the notes longer or shorter or transcribe your own songs. No musical knowledge required to make your own great music. Children or adults alike will get great satisfaction from being able to create their very own music.

DISK ONLY

ORIGINALLY £14.95

OUR PRICE £7.95

ZAXXON

One of the all time classics for the Atari, Zaxxon set new standards when first issued and was copied many times. Pilot your craft across the unique 3 dimensional battlefield shooting enemy fuel tanks, anti-aircraft tanks and missiles before launching off through space for the ultimate conflict with a mighty robot - few have got this far! Zaxxon, often copied, never bettered and NEVER at this incredibly low price!

DISK OR CASSETTE

RRP £7.95 cass/£9.95 disk

OUR PRICE £2.99

SCREEN DUMP 1020

Owners of the 1020 printer/plotter will be delighted with this utility which has been unavailable for a long time. Now AtariArtist pictures can be dumped to your 1020 in FULL COLOUR. Just boot up the tape, select your favourite picture and let the software do the rest.

CASSETTE ONLY

Originally £14.95 **OUR PRICE JUST £2.95**

PLANETARIUM

BACK IN STOCK!

Fun or education? Both really in this fascinating look at the heavens. Over 1200 stars, 88 constellations, the solar system and more than 300 deep-sky objects are depicted in this program that allows you to view the universe. You can make stellar and planetary maps, study eclipses, learn about latitude and longitude and much more.

1050 DRIVE ONLY
Please state when ordering if you have a US Doubler fitted

Normally £16.95

OUR PRICE £ 6.95

HOME FILING MANAGER/PAY OFF

DISK ONLY

The Home Filing Manager record keeping system that simulates index cards on your Atari, keeps track of almost anything together with The Pay-Off Adventure - your chance to sample an adventure in classic style. This two disk set also includes some top class graphics demos.

SPECIAL PRICE - ONLY £1

PROOFREADER

Users of Atariwriter will be delighted with this, the long lost spelling checker for the Atariwriter cartridge! Proofreader may be loaded alongside Atariwriter to give you instant access to a dictionary of 36,000 words. If that is not enough you can add your own words as you go. Errors are highlighted on screen for correction, unusual words can be saved and you can look up spellings.

DISK ONLY

OUR PRICE £5.95

MACRO ASSEMBLER

The Macro Assembler will allow you to create your own machine language games and applications five times faster than with the Assembler Editor cartridge and it can assemble as many as 1600 symbol definitions with no limit on program size. You can duplicate code, optionally assemble code and modularise your program. A Program-Text Editor is included.

DISK ONLY

Normally £19.95

OUR PRICE £7.95

BASIC CARTRIDGE

Why would you want a Basic Cartridge when Basic is already built in to your machine? Well some programs, especially some early public domain programs won't run on the XL/XE but they will if you plug in the old version of Basic. Much more convenient than having to boot in the old Basic from disk and, at this price, worth having just as a backup.

ROM CARTRIDGE

OUR PRICE £3.95

HANGMAN

The original computer education game suitable for ages from 8 to adult. Three levels of play with 40 words in each. You play against the computer by guessing the word the computer has chosen. Uses keyboard or joystick.

CASSETTE ONLY — **OUR PRICE JUST 99P!**

STRANGE ODYSSEY

At the galaxy's rim, there are rewards aplenty to be harvested from a long-dead alien civilization. Fabulous treasures ... advanced technologies far beyond human ken ... All this and more awaits the brave galactic Adventurer. But will you be able to recover the wealth and return home? Prepare yourself for a Strange Odyssey! Scott Adams Graphic Adventure #6 is a Moderate level adventure.

Original price £19.95

DISK ONLY — **OUR PRICE £7.95**

HARDBALL

American League baseball at it's very best. A highly regarded game - check out the review in Issue 45 'THE best sports simulation on the Atari'. Look over the pitchers shoulder as he throws the ball to the waiting trio of batter, catcher and umpire. In HardBall you can hit, run, steal, blunt and dive, change the fielders and do everything you can do in the real game. For one or two players.

Normally £14.95

ROM CARTRIDGE — **OUR PRICE £7.95**

GALAXIAN

Another arcade conversion that retains all of the addictiveness of the original and still stands as one of the all time classics. Blast the galaxians as they advance in formation and peel off to attack. With one or two players and 10 skill levels you'll be entertained for a long time. Includes an easy option for beginners.

Normally £12.95

ROM CARTRIDGE — **OUR PRICE £6.95**

TAIL OF BETA LYRAE

Our A-Z of Atari Software series says "The ultimate 'Scramble' clone with superb graphics and music. This humdinger of a horizontally scrolling shoot 'em up was written by Philip Price, and the music was by Gary Gilbertson. They later went on to write the 'Alternate Reality' games." This is one of the few original 'classics' right up there with the top arcade games of all time. Give your eyes, ears and reactions an unforgettable treat!

CASSETTE ONLY — **OUR PRICE JUST 99P!**

RESCUE ON FRACTALUS

Ask old hands what was one of the best games ever for the Atari and a good proportion of them will say Rescue on Fractalus. This game from Lucasfilm set new standards in computer games combining a space flight simulator with a rescue mission. Super, ever changing, 3-D scenery as you fly through the mountains to land on the planet and rescue stranded pilots.

Normally £14.95

ROM CARTRIDGE — **OUR PRICE £6.95**

BALLBLAZER

Another from Lucasfilm, this top quality split screen game takes place in a games arena of the future. You are strapped into a Rotofoil hovercraft-like vehicle that skims over the surface of the playfield at 50 metres per second. The object is simple, just release your Plasmorb through your opponent's goal. Two-player simultaneous play with first person perspective for both players.

Normally £14.95

ROM CARTRIDGE — **OUR PRICE £6.95**

SUPER BREAKOUT

Breakout was the original simple yet totally addictive game and this enhanced version will provide even more addictive fun. Several variations on the basic theme are available for one to four players (up to 8 on the 400/800!). NOTE that this game requires paddle controllers.

Normally £9.95

ROM CARTRIDGE — **OUR PRICE £3.95**

STAR RAIDERS 2

The original Star Raiders is updated with better graphics and sound. Your job is to clear each sector whilst ensuring that the enemy do not overrun planets in another part of the galaxy. It will take skill in deciding which sector to warp to, can you afford to clear a sector or will you have to leave to defend a planet and return later! A great follow up to an all time classic.

Normally £14.95

ROM CARTRIDGE — **OUR PRICE £6.95**

LODE RUNNER

Another classic, perhaps the best of all platform games. You are a highly trained Galactic commando deep in enemy territory. Your mission is to infiltrate all 75 of the enemy's subterranean levels to recover every last piece of gold. You are equipped with a laser drill pistol but you'll need cunning, speed and agility. Lode Runner includes a unique extra that allows you to create your own levels.

Normally £14.95

ROM CARTRIDGE — **OUR PRICE £7.95**

SILENT BUTLER

The all round personal finance planner that keeps track of three bank accounts, maintains income records, reminds you of birthdays, anniversaries and important dates and generally keeps you up to date on your financial status.

O riginally £14.95

DISK ONLY — **OUR PRICE £6.95**

ONE ON ONE

Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves, fatigue factors, hot streaks, a shot clock, even instant repay and a shattering backboard! Like the game of basketball itself, One-on-One rewards you for playing with your head as well as your hands.

Normally £14.95

ROM CARTRIDGE — **OUR PRICE £6.95**

FIGHT NIGHT

BACK IN STOCK!

Fight Night brings you all the thrills of the boxing ring as you face five of the most brutal fighters ever. Its five separate battles are total war with relentless action. The Boxing Construction Set allows you and your opponent to create your own perfect boxers, selecting stamina, intellect and style. Step into the ring to pit your perfect boxer against the computer or another opponent. 1/2 players.

Normally £14.95

ROM CARTRIDGE — **OUR PRICE £7.95**

DESERT FALCON

A version of the classic Blue Max that finds you flying across the desert Indiana Jones style searching for hieroglyphics hidden in the desert sands. You need to survive long enough to destroy the howling Sphinx. The longer you survive and the further you proceed, the more perilous your mission becomes. If you destroy the Sphinx you get to gain the bonus round for even higher points. Four levels.

Normally £14.95

ROM CARTRIDGE — **OUR PRICE £7.95**

ORDER FORM

ALL ITEMS FOR XL/XE

NEW SOFTWARE

Qty.	Title	Price	Total
	ARCHON	£ 7.95	
	BATTLECRUISER	£ 9.95	
	COLOSSUS CHESS 4(Disk)	£ 6.95	
	COLOSSUS CHESS 4(Cas.)	£ 6.95	
	CONFLICT IN VIETNAM	£ 5.95	
	DECISION IN THE DESERT	£ 5.95	
	DRUID	£ 3.95	
	ETERNAL DAGGER	£ 8.95	
	FLIGHT SIMULATOR II	£ 9.95	
	GAUNTLET	£ 7.95	
	INTERNATIONAL KARATE	£ 4.95	
	JEWELS OF DARKNESS	£ 6.95	
	JINXTER	£ 7.95	
	KENNEDY APPROACH	£ 8.95	
	LANCELOT (Disk)	£ 7.95	
	LANCELOT (Cass)	£ 7.95	
	MIG ALLEY ACE	£ 6.95	
	NATO COMMANDER	£ 5.95	
	PAC-MAN	£ 6.95	
	PANZER GRENADIER	£ 9.95	
	SARGON III CHESS	£ 5.95	
	SILICON DREAMS	£ 6.95	
	SMASH HITS 7	£ 3.95	
	SOLO FLIGHT	£ 5.95	
	SPINDIZZY	£ 4.95	
		Total	

SERIOUS SOFTWARE

Qty.	Title	Price	Total
	BASIC CARTRIDGE	£ 3.95	
	HOME FILING MAN. / PAY OFF	£ 1.00	
	INV TO PROGRAMMING 2	£ 2.95	
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ST FILE



NEW LYNX SOFTWARE

Nothing to do with the ST this, but a large number of ST owners also have Lynx machines to continue their addiction wherever they may find themselves, so we thought it might be of interest to report forthcoming software for the Lynx this issue.

Atari have a most impressive array of software lined up for 1992 some of which will have been released by the time you read this. There are over 30 new titles scheduled for release during the first six months of the year including popular coin-op games such as TOKI, XYBOTS, 720 and ROLLING THUNDER as well as conversions of many of the most popular ST games such as LEMMINGS, SHADOW OF THE BEAST and EYE OF THE BEHOLDER. Atari themselves have a line up of sports titles for 1992 with NFL FOOTBALL, HOCKEY, MALIBU BIKINI VOLLEYBALL (not yet a recognised Olympic sport we suspect!), WORLD CLASS SOCCER and more.

Some other titles include GOLF, CHECKERED FLAG, a racing game in which you can construct your own courses, FIDELITY ULTIMATE CHESS and several arcade style games such as BASKETBRAWL, VIKING CHILD, and GRID RUNNER.

All in all 1992 looks like being an interesting year for Lynx owners, provided Atari do actually release all their stuff. How many times have old Atari hands read of 'imminent' releases that never quite made it?



NEW BOOKS

Kuma have recently published two interesting guides for those interested in DTP on the ST, respectively, Desktop Publishing with Calamus and Desktop Publishing with Timeworks These books each contain introductions to DTP and the respective software, followed by several 'projects' which take you step by step through the stages of creating a particular document. Unlike many DTP books these take into account the basic principles of page layout and design so that, hopefully, some of the more scrappy examples of DTP seen everywhere will not be repeated. The books retail at £14.95 and are available now. In the event that you can't find copies at your local store, give Kuma a ring on 0734 844335



GUIDING LIGHT CLOSED

There are new regulations governing the use of 0898 numbers intended to close down some of the unsavoury or money-grabbing services. Unfortunately these regulations apply to all services and involve enormous financial outlay which the Guiding Light could not afford so, sadly, the Guiding Light Adventure Helpline has had to close for the moment.

Jackie still has some computerised helplines for specific adventures (like the Magic Pockets one mentioned in this issue) and is investigating ways of getting some form of Helpline going again in 1992. In the meantime I am sure that we would all like to thank Jackie and her crew for the invaluable help they have given so many of us over the last couple of years and wish them all the best for the future.

ST SOFTWARE REVIEWED THIS ISSUE** from top to bottom **MAGIC POCKETS, PIT FIGHTER** and **UTOPIA

TIMEWORKS 2

Like many Atari users, my interest in desk top publishing (DTP) was originally aroused years ago by Broderbund's classic Print Shop program on the 8-bit machines. In fact my family STILL regularly use it, although it's really designed for just a small range of "domestic" DTP tasks. I've recently been looking for something a little more sophisticated though, and realistically this means an ST based package. GST's Timeworks Publisher is one of the most popular, so I was delighted to receive an invitation to GST's galactic HQ in St. Ives to see their brand new Timeworks Publisher 2 demonstrated - and to collect a review copy.

The package includes six(!) double sided disks plus a high quality 284 page ring-bound manual. The first job is to tailor the program to your machine's configuration, after which you'll typically find it fits onto just two disks, one for program code and one for fonts. You'll also need a data disk to hold your documents.

Minimum hardware configuration is an ST(E) with 512K and one double sided floppy disk drive. However, 1MB memory and two drives is strongly recommended, but even this has limitations. 2MB makes life much easier, and adding a hard disk to this makes it better still. It will also run on a TT. Medium resolution colour displays are supported, but high-res monochrome is preferable. Printer drivers are supplied for Epson 9/24 pin and GQ laser printers, NEC 24-pin, Canon BJ10 BubbleJet; HP LaserJet 2/Plus; Atari laser; several PostScript printers; and others compatible with these.

TIMEWORKS PUBLISHER 2

GST Software Products

£129.95

Reviewed by John S Davison

NEW FEATURES

Users of the original Timeworks Publisher should feel at home with this new version as it has the same look and feel - plus a long list of new facilities and improvements. These include four additional fonts; three additional text styles; importing of text and graphics from a wider range of external wordprocessor and paint programs; automatic text flow of imported text files; use of irregular borders for flowing text round graphics; ability to name and export blocks of typed text; custom paper sizes up to 22.5 inches square; five alternative page numbering formats; improved tab handling; multi-page add/delete; automatic timed backup of current document; manipulation of groups of text/graphics frames; simultaneous support of up to four different printers; ability to omit pictures when draft printing documents; and customisable program defaults. Phew!

The main working screen displays a window containing the page you're working on, with scrollbars provided for handling pages too big to fit into it. Across the top is the usual menu bar, and at top left is a four icon "toolkit" controlling the program's four main modes of operation - Frame, Paragraph, Text, and Draw modes. Below this is the "Browser" area with contents depending on the mode you're using, e.g. lists of text styles, picture files, drawing tools, etc. Finally, bottom left shows a page icon indicating the number of the page currently displayed, and whether it's a left or right hand one.

A "master page" may be defined as a template for the overall style common to all pages in the document, e.g. to specify page headers, footers, page numbering, and column guides. These guides divide each page into vertical columns onto which "frames" containing your text and graphics can be laid. You can also define top, bottom, left, and right margin dimensions; distance between columns; page size; and horizontal and vertical page offset. Left and right hand master pages can be defined and the program alternates them appropriately throughout your document. These definitions (plus additional items) can be saved on disk as a reloadable "style sheet", so you can easily create other documents later using the same overall style.

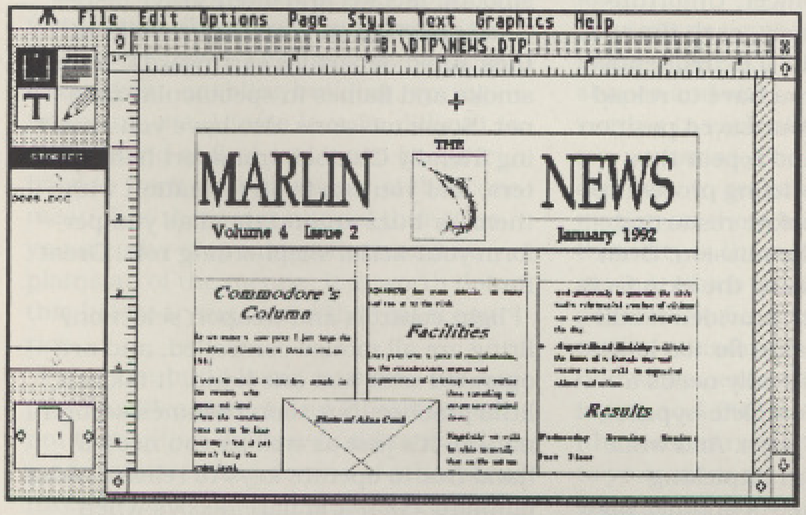
PAGE LAYOUT

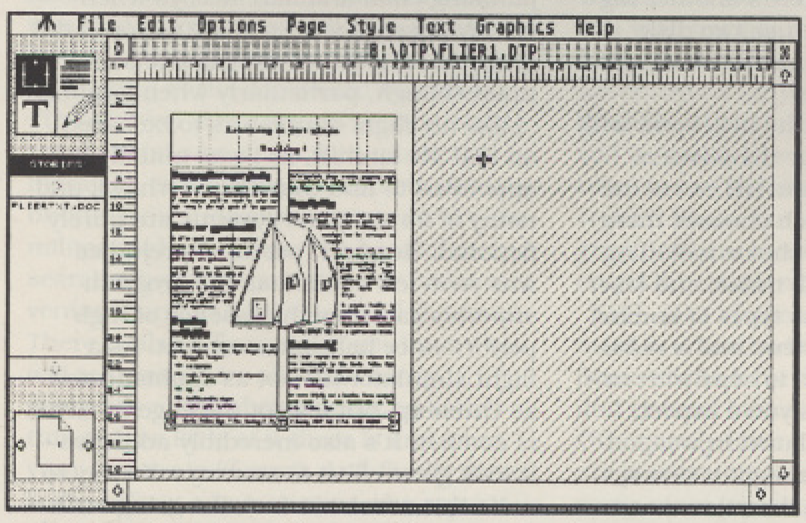
When starting to lay out the page the screen displays a representation of it, blank except for data from the master page. You can view this in a number of sizes, from twice normal size for accurate positioning of text, etc., down to two pages on the screen at once for viewing the overall layout of left/right page pairs. Vertical and horizontal rulers at the top and left side of the screen can be activated for accurate positioning.

The first layout task is to divide up the page into separate "frames", rectangular areas into which text or graphics may be placed. This is achieved either directly using the mouse or by keying in the frame's position and dimensions. Frames can overlap each other if required, and "handles" on each corner and edge permit you to easily resize or reposition them on the page at any time. The frames can optionally be made to "snap-to" the column guides defined earlier, making accurate alignment a simple task. The frames themselves are normally invisible on printout, but can be given visible borders or even tinted if required.

Frames need filling with text or graphics. Text may be input in several ways, the easiest being to key it directly into a selected frame. Text editing facilities are fairly basic, so for large amounts of text you'd probably want to prepare it with a separate word processor then "import" it into Timeworks. This facility can read files in many different word processor formats including First Word Plus; Locoscript; MS Word 4/5; MS Works; Multimate; Word Perfect 4/5; and Wordstar/Wordstar 2000. Other word processors may be used providing they can output files in one of the above formats, or in ASCII; DCA/RFT; or IBM Displaywrite RFT formats.

If there's too much imported text to fit into one frame it can be quickly "flowed" from one frame to another, even across page boundaries if necessary. You can also arrange for frame borders to "repel" text, so it can't become obscured by repositioning another frame over it. The





text just gets "reflowed" around the edges, and following text gets automatically repositioned as required. Clever!

KERNING

Some of the more unusual features include the handling of discretionary hyphens; "non-breaking" spaces; and "kerning" - adjusting the spacing between adjacent pairs of letters to make them look neater, especially useful with large headline fonts. You can also change the basic style of any part of the text, by highlighting it with the mouse then choosing from bold; underlined; italic; light; outlined; boxed; rounded boxed; strikethrough; white (on black background); superscript; and subscript styles. You can also use combinations of these, e.g. bold italic, if required.

There's also a choice of fonts supplied in various sizes - Serif; Sans; Rockface; Autumn; Drury Lane Capitals; Sage; Brushwood; Diamond; plus Zapf Dingbats for those odd little bullets and symbols. These can be supplemented by additional GDOS fonts available from PD libraries and other sources. Again, you can change a font by highlighting the text and choosing a new font and size.

It's tedious having to manually set the font/style for every block of text, so Timeworks provides a shortcut. Paragraph mode permits you to predefine a font; style; justification; hyphenation; indentation; word and letter spacing; margins; etc., for each different type of paragraph in your document, e.g. headline, subheading, bodytext. To use them just click on a paragraph to highlight it, then click on the required paragraph type, and the text immediately reformats using the new specifications.

Frames may also be filled with graphics. Timeworks can import graphics files from most popular paint, drawing, and graphics programs including NeoChrome; Degas; GEM images or outline/vector drawings; PC Paintbrush; Lotus products; and Deluxe Paint. File types supported include .NEO; .PI1/2/3; .IMG; .GEM; .PI1/2/3; .PCX; .PIC; .EPS; .IFF; plus TIFF format.

If the picture looks wrong on the page you can resize its frame or slide it around and Timeworks will automatically rescale and reposition it, and also repel and reflow any adjacent text as necessary. It's now possible to draw an irregular shaped border around a picture for use as the repel boundary, for a more professional look or for special effects. Further, you can "crop" a picture by "rubber-banding" a section of it with the mouse. Timeworks discards the non-selected part then rescales the remainder to fill the frame again. There's also a limited pixel editing capability for bit mapped pictures.

DRAWING TOOLS

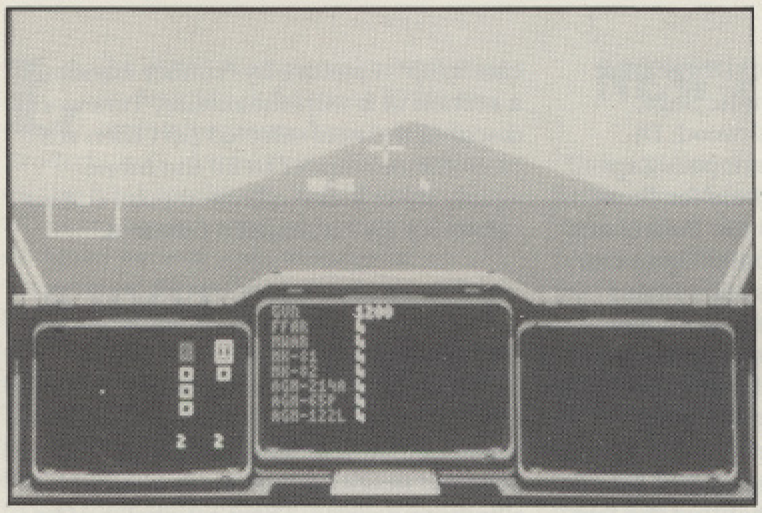
You can also switch into Draw Mode to create graphics directly in a frame. Drawing tools available include straight line; polyline; freehand line; box; rounded box; ellipse; and circle. There's a choice of line thickness in broken or unbroken style, with or without arrows on either end. Enclosed shapes can also be filled with one of many available fill patterns.

After creating your document you can print as many copies of any selected page or group of pages as you wish. It's also possible to print just the right hand or left hand pages, and to pause between sheets to facilitate page "duplexing" (printing consecutive pages on both sides of the paper). Reverse order printing and multiple copy collation may also be specified. The output looks excellent even on lowly 9-pin printers, but you must use a decent ribbon for best results.

The only problem I had was caused by insufficient memory on my 1MB STE, which caused Timeworks to start scaling the bitmapped fonts to get different sizes, instead of loading the pukka versions. It gives NO warning of this - you only know it's happened when you see the poor quality, blocky, uneven looking output. Circumvention is to comment out unused font entries in the ASSIGN.SYS file, releasing memory for the fonts you DO want. Alternatively, buy more memory - prices are very low at present!

Overall, I'm impressed with Timeworks Publisher 2. It's relatively easy to use, and its features should ensure it's capable of tackling virtually any DTP task the home, school, club, or small business user cares to throw at it. These could include producing newsletters, catalogues, brochures, posters, signs, manuals, etc. It may not have every feature of more upmarket DTP packages, but at its price it offers great value for money. So, if you're looking for a DTP package put this one on your shortlist.

AH-73M THUNDERHAWK



It's a while since I reviewed a helicopter simulator, so I was pleased to try this new offering from Core Design. Initially I thought it might be just a Gunship clone, as it shares many common features with that classic from Microprose. However, I soon discovered it's pretty good in its own right.

It's supplied on two double sided disks and runs on any ST(E), but 1MB memory is recommended - presumably because of its extensive use of sampled sound. Review machine was a 1MB STE.

Predictably, Thunderhawk is a flight combat simulator. The scenario casts you as a member of the crack UN assault team known as MERLIN, with the job of flying the only operational example of the AH-73M Thunderhawk, the latest thing in rotary wing technology. MERLIN's role is to defuse crisis situations anywhere in the world before they escalate into full scale conflict.

The program starts with a lengthy cartoon style animated intro using sampled speech, which you'll probably watch once and skip over on subsequent loadings. Then after some stirring sampled music accompanying the title screen you enter the "Common Room". Here you can choose to use the "simulator" to learn how to fly Thunderhawk (yes folks, it's a flight simulator simulator!!); view your achievements to date; load/save details of previously completed missions; or enter the War Room or Briefing Room.

In the War Room you choose your campaign from a selection covering Europe, South America, Central America, Middle East, SE Asia, and Alaska. Each campaign is subdivided into ten missions, details of which are available in the Briefing Room from your commanding officer. Unfortunately, each time you die (i.e. frequently!) you have to reload your saved position and repeat this briefing procedure before restarting the mission. Even using the skip facility provided it still takes far too long - it really needs a complete bypass option. And while I'm nitpicking here's another niggle - the program won't use two disk drives, but annoyingly insists on swapping disks on one drive.

Next you have to arm the helicopter with appropriate weapons for the mission, either selecting them yourself or via the "Auto arm" option, which chooses them for you. There's a wide choice including unguided and infra-red, radar, and laser guided missiles; various types of bombs; a runway cratering system; and a radar jamming pack - enough to cope with virtually any situation. As you'd expect Thunderhawk has the latest in weapon delivery systems, and a night vision system for use on nocturnal sorties.

Once in the cockpit you see the standard "through the windscreen" 3D view, with important flight and weapon delivery data projected onto a Head Up Display. The outside view is handled well, with terrain depicting hills, roads, rivers, lakes, etc. appropriate to the campaign scenario. There are also bridges, airfields, factories, and other miscellaneous structures, plus gunboats, submarines, and all manner of other military hardware - all of which explode and burn when hit by your considerable firepower. Below the windscreen is an instrument panel, but it has no traditional flight instruments - only displays showing threat warnings, weapons inventory, and damage assessment.

In external view mode you can watch yourself flying, with the viewpoint set to any desired angle and distance. You can also view things from the target viewpoint, or even from the missile or bomb as it's launched towards its target.

For me though, it's the enemy aircraft encountered which provide the real excitement. These include (Soviet model) helicopter gunships and jet fighters, the animation of which is superb, being smooth, lifelike, and often VERY fast! Good shooting on your part results in their rapid departure earthwards, trailing smoke and flames in spectacular manner. Some missions also have you escorting friendly Chinook transport helicopters, and you can fly in formation with them, or buzz around them as you perform your aerial shepherding role. Great fun!

Flight controls and weapon selection/firing are all mouse controlled, and are operated with just one hand. It takes a little practice, but soon becomes second nature. It's just as well as you need a hand free to operate keys to release radar jamming chaff and flare decoys when enemy missiles start coming at you. I did find control a little oversensitive sometimes though, particularly when landing.

I like my flight simulators to be based on real life aircraft, so I was initially disappointed to find that Thunderhawk and many of its weapons systems are purely fictional. However, personal prejudice was soon left behind, as the program superbly captures the essence of high performance helicopter combat. As a flight simulator it's not as sophisticated as Gunship, but it's got the edge in terms of combat. It's also incredibly addictive - it took great effort to tear myself away to write this article! In fact, I'm going back to it right now!

- ***SIGHT AND SOUND*** *- excellent graphics and good sound help make this one of the most exciting flight combat simulators currently available*
- ***GAMEPLAY*** *- very addictive, with enough scope and challenge to ensure lasting interest*
- ***VERDICT*** *- it's terrific; a treat for all flight combat fans!*

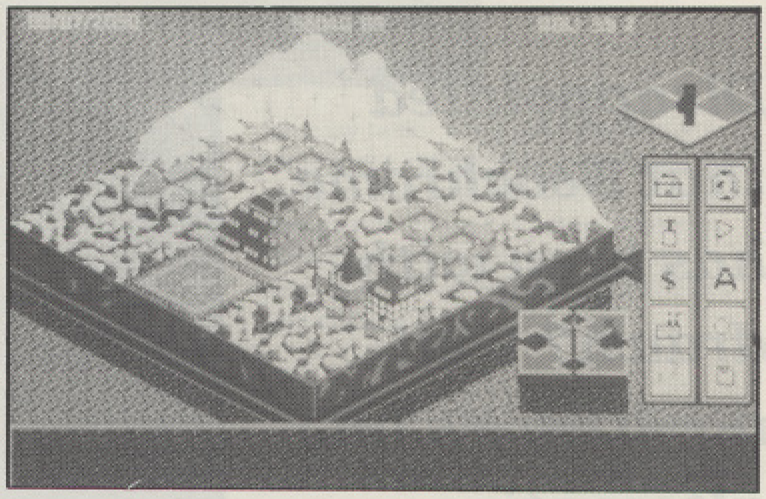
AH-73M THUNDERHAWK
Core Design
£29.99
Reviewed by
John S Davison

UTOPIA

Utopia is a Sim-City/Populous style game. You must develop a colony into the perfect world. Unfortunately, there are aliens thwarting your every move. The game is mouse and icon driven, enabling building, spying, financing, etc. Utopia is quite difficult to understand at first and it can be quite hard to work out what some of the icons mean, but there is a tutorial that gives you step-by-step instructions and explains all of the menus. It is worth doing this before trying one of the real scenarios.

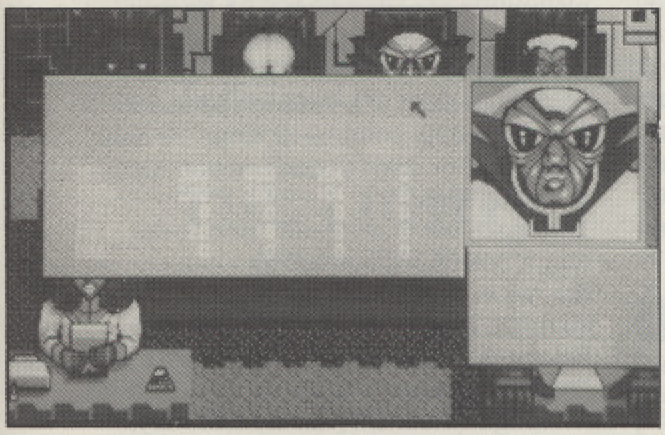
You must build living quarters, life support facilities, mines and laboratories, not to mention military buildings and food resources and dozens of other structures to help your people not only survive, but enjoy life as well. You must assign people first to building and then to working in the completed buildings.

To help you there are advisors: a senior psychiatrist who deals with crime and morale; a civil engineer who lists all your buildings; a supreme commander for the military side of things; the head of research who will report on your latest inventions and ask for money all the time! There is also a financial consultant who will tell you where all your money is going (it's always being spent on something), how little of it there is and what your income is (if any!). And finally there is the colony administrator who reports on energy and food resources: how much was produced and used in the previous month.



The aliens come in many different shapes and sizes, varying in each of the ten scenarios. The only way to get information on them and their city is through spying, which is expensive! No funding means no information whatsoever. Giving up to 4,999 GR (the local currency!) to your spies only gets you low level surveillance. 5,000 to 19,999 GR will equip you with normal intelligence activity and fairly good information. If you are really adventurous (or just plain rich!) then 20,000 GR plus will ensure that there will be special operatives in use, giving reliable and detailed information on a regular basis. You can scroll through the graphically presented reports to decide on your next plan of action.

Each race of aliens has different equipment and methods of attack and defence. Some aliens have a mixture of both air and ground forces, but are fairly weak. Others only have ground forces but they are moderately strong. There are even some races whose ground and air forces are invisible to radar. To defend against aliens you use missile launchers or laser turrets, which you build around your city. The lasers are fired automatically (you may aim them if you wish) but you have to launch the missiles manually; once launched they will lock on to an enemy (either ground or air) and destroy them. Military yards produce tanks and ships with which to attack the enemy city.



Tank and aircraft movement is controlled by placing markers on the overhead map then directing the vehicles to the markers. It can get very frustrating moving markers around in the middle of battles as it takes a fairly long time, and usually by the time your tank has reached the marker the enemy vehicle has moved and you need to place another marker elsewhere. Markers placed on buildings make the tank patrol around the building which keeps it safer than if the tank was stationary on one side of the building.

For the first few years you get grants from Earth, but then it's up to you to raise your own money. You do this mainly by trade: selling your own goods and also buying from other people, keeping the goods and selling them later for a profit. There is also income from tax, but you have to be careful not to put the rate too high or your colonists will begin complaining.

If you fund your research and build enough laboratories then your scientists will invent things for you, beginning with compressed fuel tanks and space moss converters, working their way up to matter transporters, HDX missile launchers, hover tanks and land mines, etc. You can choose to give your scientists either a civilian or military grant but remember to fund them regularly as they use money up VERY fast.

A very detailed and varied game, switching between developing your colony, fighting off aliens and trying to achieve the ultimate objective of making your people happy! When the quality of life reaches 80% then you are awarded a medal and are probably ready to try the next of the 10 scenarios.

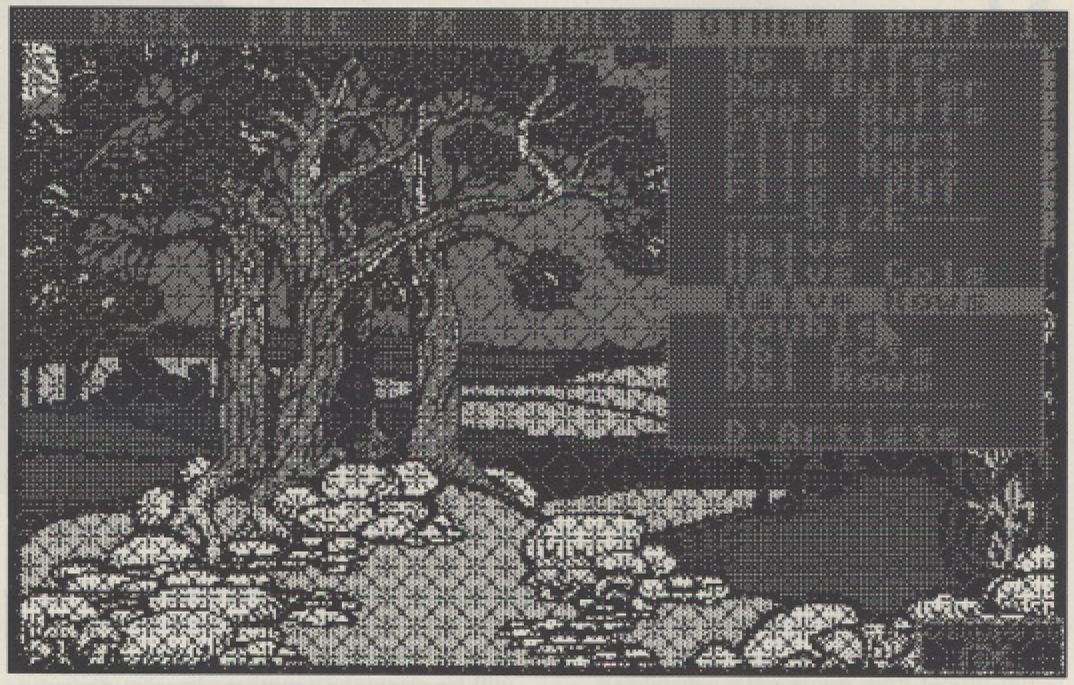
- ***SIGHT & SOUND*** - *Excellent graphics. Good music with a choice of 4 different soundtracks, or you can have FX which are of equally good quality*
- ***GAMEPLAY*** - *Very good and fairly addictive. A well designed mouse/icon interface makes it very easy to operate*
- ***VERDICT*** - *A brilliant game, if you are a Sim-city or Populous fan it is definitely worth buying*

Title:	**UTOPIA**
Publisher:	**Gremlin**
Price:	**£29.99**
Reviewer:	**Sam O'Hare**

PD WORLD

Paul Rixon's

Disappointed that Neochrome has been with-drawn? Well, now there's an alternative



XS FX/D'ARTISTE two excellent drawing programs in one

In their recent television advertising Atari have been keen to emphasise the creativity applications of ST computing. With the rising popularity of dedicated games consoles and the undeniable success of that machine from Atari's long-time rival, it's hardly surprising that Atari have sought a new marketing angle (though perhaps unusual that they've taken any action at all!).

The pre-Christmas ad's drew attention to the educational, musical and graphical capabilities of ST machines - 'computers that are real things, not play things!'. Ironically the campaign coincided with Atari's decision to crack down on libraries who were stocking certain programs they thought were PD, but were technically not. The result was that some creativity applications could no longer be obtained! One of the affected programs was Neochrome, one of two long-established 'standards' in the world of ST art. It would seem that the earliest version of Neochrome is officially classified Public Domain, but the later releases are not. The good news is that a new art package was recently added to the Page 6 Library. Time to check it out!

STEP FORWARD RENOIR!

The disk is appropriately named **ARTIST'S TOOLBOX** and as well as the central program there are some bonus files too. For starters there's a demo of Electronic Arts' **DELUXE PAINT** (version II is now commercially available). All the basic drawing functions appear to work and although you can't save any pictures, the demo provides an ideal opportunity to 'try before you buy'. However, before you empty your wallet on a full-priced package, be sure to check out the main contents of this disk: **XS FX/D'ARTISTE** is a drawing program with a plethora of useful features. It will run on all STs with a minimum one megabyte RAM and great news for STE owners is that it's been designed to utilise the additional colours available - a total of 4096 in all. If you have GDOS, you can optionally install this with D'ARTISTE and add text to your pictures using the fonts supplied on disk.

XS FX/D'ARTISTE is divided into two logical components, each connected by a common menu system - hence the strange title. The **D'ARTISTE** part provides the basic painting functions to assist your creativity whilst XS FX is a collection of special effects that you can apply to existing pictures. The author originally intended to write a tool that would save pictures for inclusion in his own programs and the file options reflect this key functionality. As well as the ability to load and save graphics in Neochrome or Degas format, the program has facilities to clip sections of a picture and save them to disk as a 'Put' or a 'Sprite'. All you do is mark out the required area. Puts and Sprites can be imported back into other pictures, the difference being that Sprites have an associated mask file that prevents the background detail being obliterated. The documentation file explains everything you need to know and includes an example section of code which GFA Basic programmers can use to read clipped artwork back into their own programs.

Although most of D'Artiste's functions are invoked by pointing at icons, several keys must be used in conjunction with selected items.

The space bar is generally used to display a palette from which you can choose the required colour. Undo enables you to abandon the last action you took and Return is used to toggle certain features. The M key takes you into multi-coloured drawing mode whilst the number keys perform a sizing function for many of the tools available - when drawing freehand for example, they change the size of the 'brush'. For detailed adjustments to the image you can switch into Pixel magnification mode. As you'd expect there are tools to draw lines (either one-off or incrementally), fill areas with blocks of colour, draw filled or outline boxes, create

circles and ellipses, and splatter the screen with an air brush effect. Less common utilities enable you to plot Bezier Curves and animate sprites sets.

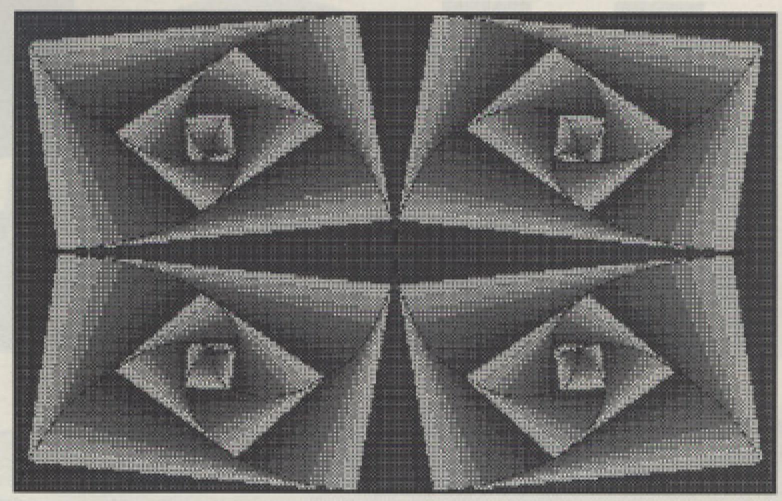
Depending on the memory configuration of your machine, you're allowed either two or five simultaneous buffers (or work areas) in which to exercise your artistic talents. Some of the options on the **XS/FX** menu therefore allow you to switch between buffers and copy pictures from one buffer to another. With a swift click you can flip the current picture about its horizontal or vertical axis. With similar ease you can mess around with the size of the image - it can be halved or doubled along both or either axis. The luminosity of a picture can be modified globally by adding or subtracting measures of the red, green and blue colour components. If you want to produce some really strange pictures, check out the unique range of special effects! The consequences of Negate, Crystallise, Mosaic, Stain, Frost Up and Smear almost speak for themselves. For a finishing touch you can animate your masterpiece by cycling though a specified range of colours or using limited page flipping techniques.

Ignoring all the non-essential bells and whistles, the question is whether or not D'Artiste is an adequate alternative to Neochrome 0.9. A quick comparison provides the answer - yes! Although it may be argued that Neochrome is a little easier to use, you will soon become accustomed to the D'Artiste interface. D'Artiste seems to offer the average user all the drawing tools he's ever likely to need, not to mention lots of others he probably hasn't thought of!

If artistic talent isn't something you write in a prominent place on your CV, it's useful to know that the public domain is chock full of ready-made pictures which you can modify, copy, use to provoke inspiration or simply look at. There are far too many disks to mention here and you're advised to consult the library catalogues for the relevant descriptions. The subjects range from wild flowers, animals and cars to sci-fi and pin-up girls. Take your pick!

THE LIGHT SYNTH

All this creative activity may seem rather an unnecessary exertion, so why not turn down the lights, turn up the music and relax. Time for a session of **COLOURSPACE**. Jeff Minter's famous 'light synth' started life as Psychedelia on the C64 and was then enhanced and released as Colourspace on the 8-bit Atari. The ST version has been further developed into a package called Trip-a-Tron and Jeff has devised the ideal advertisement for this product - by relaunching Colourspace as Shareware. Although a small amount of documentation is included, if you officially register with Llamasoft (for the affordable sum of five pounds) they'll provide you with a proper manual and a wallet to keep it safe. Naturally Llamasoft hope you'll enjoy Colourspace so much you'll decide to splash out £20 on Trip-a-Tron!



COLOURSPACE - Jeff Minter's totally unique creation that has yet to be copied - now available as Shareware

Incidentally, the definition of a light synthesizer is that it's an instrument which produces dynamic patterns and colour sequences under the control of the operator. It's generally used with musical accompaniment. The basic instructions are pretty straightforward: The first thing you're asked to do is make a cup of tea. I guess Coffee would probably do but it does specify tea in the documentation! The next step is to set up your favourite music in the background, and turn down the lighting. Boot up Colourspace, pick up the mouse and wiggle it around on your desk. Watch what happens, wiggle it some more, and don't forget to sip the tea before it gets cold!

Colourspace is all about patterns and colours. You can press various keys for different effects - such as changing the symmetry or pattern shapes. There are twenty preset modes available when you load up the system, but you can easily change them. You can design your own pattern shapes, starfield effects and palette selections and assign them to preset 'slots'. You can record mouse movements and play them back later. There are many other features which aren't mentioned in the brief notes provided so the best strategy is to experiment - just press all the keys and see what happens! Reviewing Colourspace is no easy task - it's a program that you experience rather than talk about! You'll either love it or loathe it. J.M. is to be congratulated on his perseverance in Shareware marketing, an exercise he says has proved very successful. Keep 'em coming Jeff!

CAT 'N' MOUSE

Now for something that's a bit different - a disk that's completely useless! Well, not exactly, **TOM & JERRY** is a brilliant animated sequence quite unlike those you may have seen before. All you have to do is sit back and watch over ninety seconds of cartoon antics with the famous duo up to their usual violent tricks. The superbly animated graphics are accompanied by lots of digitised music and speech and the whole things fits together into a short story, just like a TV cartoon. The quality is incredible. The programs were apparently written in STOS, though you probably won't believe it's true when you see the demo!

SO ... TILL NEXT TIME

Well, that's all folks (sorry, it had to be said!). Next issue's topic has yet to be decided so if you have any comments or thoughts on PD matters, why not drop me a line at the Page 6 address. Don't miss that Tom and Jerry demo, it's really good!

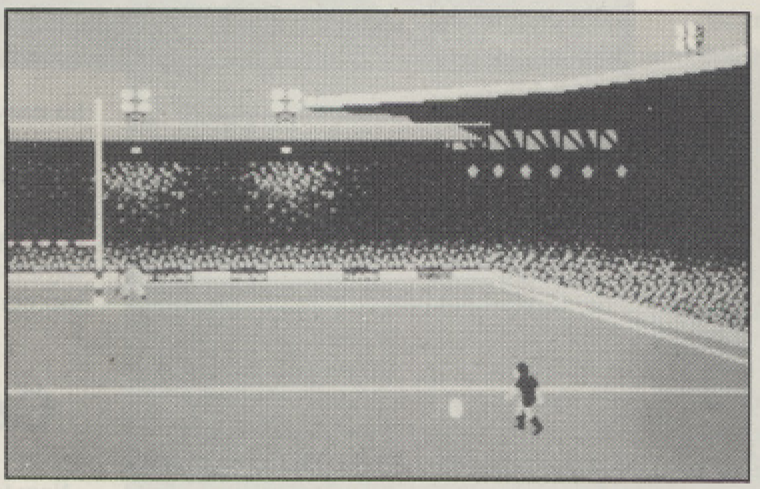
HOW TO GET THEM

All of the disks featured in PD World are available from the PAGE 6 ST library. Each has a unique reference code which you should use when ordering or making enquiries. Please contact PAGE 6 if you don't have a copy of their Accessory Shop leaflets and check the system requirements for each disk. THE PAGE 6 CATALOG DISK containing a full list of disk names and contents is available from the library, priced at £1. The disks referred to in this article are:

ST547 COLOURSPACE
ST573 TOM & JERRY
ST576 ARTIST'S TOOLBOX

Prices for standard disks are £2.95 each or £2.50 each for ten or more. Write to PAGE 6, P.O. Box 54, Stafford, ST16 1DR Telephone 0785 213928 or FAX 0785 54355 with credit card orders

RUGBY - THE WORLD CUP



Now here is a thing, only three months after the event, the game! It is traditional in reviewing sports simulations to give a brief explanation of the game in question, but following the feast of Rugby that was served up in the Autumn with all the associated fever of England in the finals most people must have some idea. Nevertheless it seems that Domark in their attempt to produce a simulation have managed to miss some of the games finer points, such as the difference between a maul and a scrum. I shall expand on these little anomalies later but, as an introduction, let it suffice to say that Rugby is a game of hand and football in which one team attempts to progress the ball up a field of play while the other side does its best to maim the carrier. It was once taught in many secondary schools and the Welsh were meant to be very good at it.

The game takes most of these precepts on board and even includes a sensible booklet explaining the basic tenets of the game. The instructions attempt to point out that there is a definite hierarchy in which some teams, namely the Home countries, New Zealand, Australia and France are meant to be better than everyone else, (it seems no-one told this to Western Samoa though!). The game is packaged very attractively in a multi-coloured box and the accompanying disk is packed with what amounts to a very good game.

Some long time readers may well remember the Advanced Rugby League simulator and be worried that similar problems will arise but it cheers me to say this is not the case. This game is very similar to Kick Off in style, with a little grid to allow viewing of the player's placements on the pitch and the option to cycle control to various defenders. It is a game that is extremely rough on joysticks since it necessitates a great deal of wrist wiggling to enable such basics as Scrums and line outs to take place. Basically the team who can wiggle the fastest will gain possession of the ball.

Rather cannily the individual teams seem to have been programmed with a base strength in scrimmage and it seemed that when using Scotland against Japan a great deal less effort was needed to overcome their pack than was necessary for the pack to win than when playing Australia. Indeed with a computer controlled Australia the Scrum became a pointless exercise that was a foregone loss. This is where the game fell down slightly, since the computer tactics did not reflect actuality. The machine had the sense to realise that any form of tackle reverted to the set scrum, hence it was most rewarding for the attacker to boot an up and under, set up a scrum and let the scrum half repeat this trick on a win. This tactic meant that the opposition never obtained the chance of offensive play and severely limited the swift passing teams' advantages.

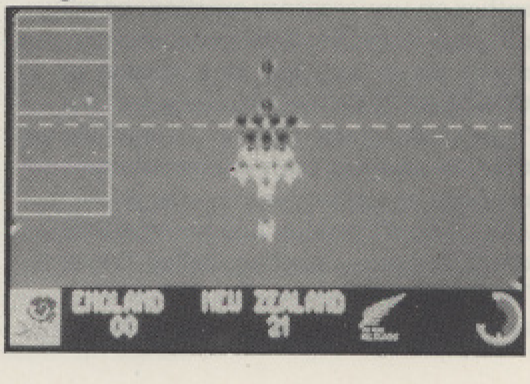
This major grumble aside, the graphics and effects are most pleasing and add to a very strong realisation of the game. The players troop on and off the field in an ordered manner and even wear their proper costumes, in fact I was so impressed with the authenticity of the teams that I was most disappointed that the All Blacks did not perform their Haka dance to start! The action is very smooth and, as stated earlier, is comparable to the best parts of the Kick Off soccer game. It seemed sad that some personalising of the players had not been managed, since their numbers are shown fairly well, and thus any potential identification has to be numeric rather than titular.

All the competing nations seem to have been entered in to the game which allows either for world cup replays or for one off "practice" matches. There is also the facility for players to take one country each and play the game head to head thus making it an interesting project for those clubs which found Kick Off leagues so entertaining. I was disappointed that there were no stat functions for a series, thereby allowing the player to see who kicked most penalties and scored most points etc. but again this is a minor grumble.

The one thing a player must be equipped with for this game is a strong wrist and a very robust joystick. Not since the Daley Thompson Decathlon days have I had to wiggle so hard and so fast that my fingers blistered. Overall this is a game that presents a challenge to the individual, both mental and physical. Aside from one or two boobs the game is well represented and at least in the early stages allows for some measure of success against the ST. I actually got Scotland to the quarter finals and the Aussies to the Semis.

If you are an armchair sports fan this is well worth investigating especially if you have a cast iron joystick.

- ***GAMEPLAY*** *- Fast and furious, good responses from the stick but the tendency to wear out the wrist, sometimes frustrating*
- ***SIGHT AND SOUND*** *- Loading and spot effects are strong the sprites large and smooth, everything a sports sim needs*
- ***OVERALL*** *- Look this over, not a bad game at all*



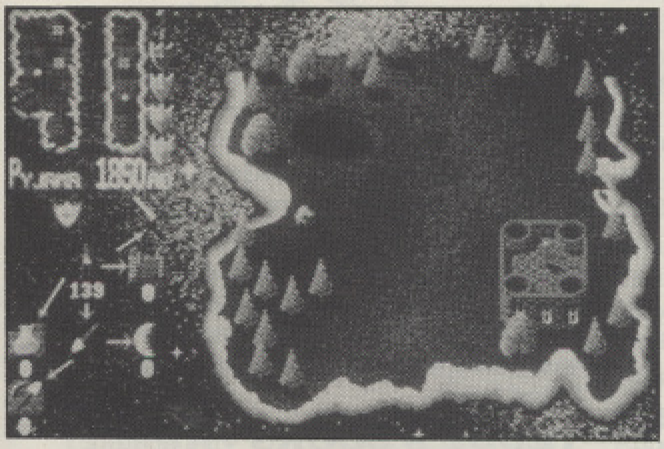
Title:	RUGBY THE WORLD CUP
Publisher:	Domark
Price:	£25.99
Reviewer:	Damon Howarth

MEGALOMANIA

A new planet! And I have been chosen as one of the four who can vie for the right to be the god of this new world. The contest is to be run through nine Epochs, in each of which I must gain control of three islands. These first ones are called Aloha, Bazooka and Cilla and I have been allocated 100 men with which to conquer them all.

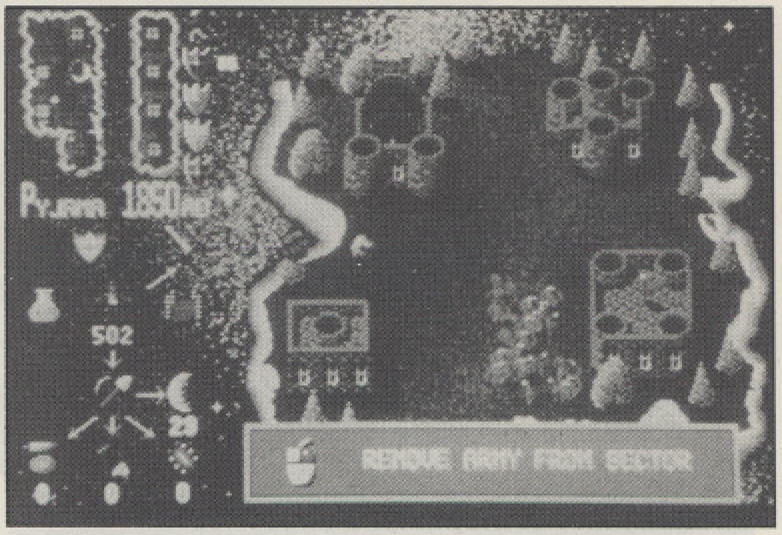
I send 30 of them to Aloha to start the action. This is a small island - only two sectors - it's just me against Oberon. Things are pretty primitive around here - 9500BC! Lots of wood lying around - must leave plenty of people in the tower to breed and gather materials. Let's see if they have any ideas about what to invent - ah! yes, my guys are ready to start thinking about how to design rocks or catapults for offence or sticks or spears for defence.

Think I'll try aggression first - let's go straight for the catapult design: three of you guys start working on it. Oh dear! that's going to take 33 cycles to complete - I doubt if my enemy will let me hang around that long. I'll put another five on to it and then allocate any new men that we breed. Right, now speed up time to 9-times normal to see how it develops. Great - in only a couple of minutes I have got another 10 men so there are 15 working on the design now - they'll be ready in four cycles!



Title:	**MEGALOMANIA**
Publisher:	**Sensible Software/ Imageworks**
Price:	**£25.99**
Reviewer:	**John Sweeney**

Right - 52 men now - arm them all with catapults and attack Oberon before he is ready - he doesn't seem to have set up any defence yet! My men are milling madly around his tower - POW! We've won!



Much later ... 7th Epoch - Utopia - this "island" is in two parts - one sector by itself and four others joined in the north. I'll put 40 men on the lone sector while the cunning, deadly Madcap and the vindictive, unpredictable Caesar are deciding what to do. 1915AD - we'll need some more modern weaponry! My guys have no ideas; there are no materials until we build a mine; no designing until we build a lab; and no manufacturing until we build a factory! Better start with the mine - 10 men plus any we breed. Right that only took a few cycles - they have discovered Yeridium, Moron, and Alien (what strange elements!) - design requirements can change so I had better allocate half a dozen men to each mine plus another half a dozen to build a lab.

Well, they've built the lab, but still haven't mined enough materials to get any ideas. Madcap and Caesar have already got factories as well, Caesar's even had enough spare men to build a tower in another sector - wonder how they are getting on at designing weapons? They only have to advance a little in order to start designing nuclear weapons! Ah, my guys have got some ideas - SDI Lasers for defence or Flying Saucers for offence - better get the SDI ready in case of nuclear attack; stop mining until they design it and decide what they need - all the spare men into designing and building a factory. Seven cycles to finish the design, two to build the factory - I need more men!

Right, the factory is ready - all you builders can go and help the thinkers! Hurrah - I have a design: 1.5 Moron + 3.5 Alien for each laser. And I have developed up to 1945! Right split the men up - laser-building, mining and designing Saucers. Hey, Caesar wants an alliance - well, why not - it will give me time to design a Saucer to blow him up!

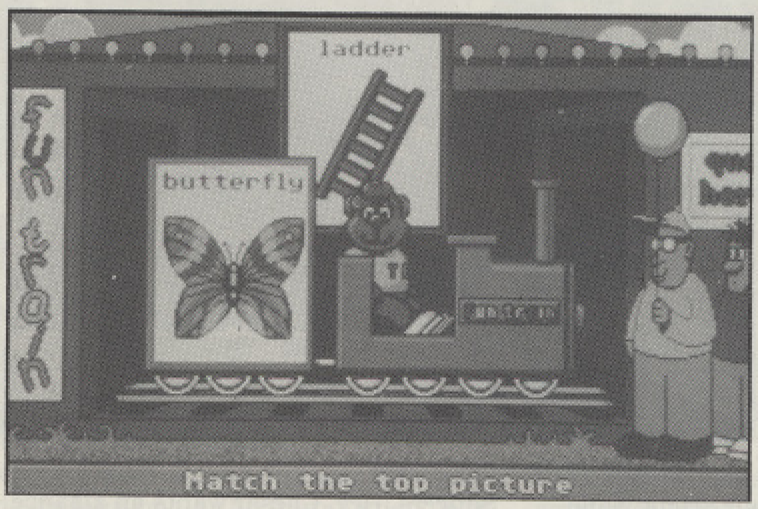
The first laser is ready - quick install it. Great the lab's designed a Saucer! - we're up to 1980. BOOOOOOOOOOOOOOOOOM! Madcap just got nuked! Uh oh! My alliance is over! Good job I got the SDI's ready - four of them in place now. Just me and Caesar left - he has two sectors up to 1980 and another just starting.

120 men building Saucers! Yeooow! He's just launched a nuke attack - three of my SDIs down. Build those Saucers - check the design - yikes - it needs Yeridium as well - I haven't been mining that - 4 Saucers built - ready to launch. Help - under attack from jets - only two though - get the Saucers in the air - jets destroyed - 6 more Saucers ready - send all 10 to Caesar's first tower - POW! - sector conquered! - these Flying Saucers are pretty hot - now on to the next of Ceasar's sectors.

NOOOOOOOOOOOOOOOOOOOOOOO! Another Nuke attack! - I haven't got enough SDI Lasers! - I haven't got any other sectors! - I'm DEAD!

- ***SIGHT & SOUND*** *- Brilliant graphics and superb speech - dozens of amazing voices telling you what's going on and acting as the enemy*
- ***GAMEPLAY*** *- Mouse-driven strategy game - superb help facilities - very easy to play. VERY addictive*
- ***VERDICT*** *- One of the best deity-simulators! Definitely worth buying!*

FOUR TIMES THE



The Fun School 2 and 3 series of educational programs are classics of their type and have now sold a staggering 300,000 copies in total! They've now been joined by Fun School 4, which like the previous releases consists of three separate packages, each one aimed at a different age group. These are the Under 5's; 5-7 year olds; and 7-11 year olds. As before each package contains several different programs, each intended to exercise a particular set of skills and as with most recent educational software they've been designed with the National Curriculum in mind.

Each package contains one double sided disk, but a single sided version is available direct from Europress if required. The programs run on any ST(E) in medium resolution colour. The accompanying instruction booklet is well presented, although it proved less than helpful in some areas. This booklet also weaves a little story around the "theme character", which links to the program's activities - a great idea as it gives added "purpose" to the exercises. A special parents/teachers section describes each program's aims, and how it relates to the National Curriculum.

As with previous releases all the programs are written in STOS and exhibit the bold, colourful graphics we've come to expect from the Fun School series. They're easy to operate too, most using just the Spacebar and Return key or occasionally the mouse and/or cursor keys. Sound is also well handled, with multichannel music and effects used tastefully and with commendable restraint.

In each case the disk autoboots into an amusingly animated startup screen which leads into an attractive graphical menu. There are further amusing antics when changing difficulty levels or quitting a program, all helping give the programs a slick, professional presentation. Let's take a detailed look at each of the packages.

UNDER 5'S

This one covers basic keyboard skills; simple reading vocabulary; basic numerical skills; experimentation with shapes and colours and even some musical activities. It uses Teddy as the theme character (as in Fun School 2 and 3) with "Teddy's Busy Day" as the scenario for the story.

ADDITION - Teddy's at his nursery school. Teacher shows pictures of objects on the board, and at Level 1 you have to help Teddy count them. At Level 2 the objects are split into two groups with numerals displayed against them, which have to be added together. Level 3 is similar, but uses only numerals. Each correct answer allows one of the class out into the playground; a wrong one triggers a prompt for a bigger or smaller value answer, as appropriate.

TEDDY PAINT - after playtime Teacher wants the bears to do some painting. This program lets you paint on the screen with the mouse, using brushes of various shapes and sizes and in a variety of colours. You can also place ready painted objects in your picture using the themes of beach, country, or playground, or even use them as a "brush" and paint copies of the object all over your picture. The speed this works at is impressive! Colours can be changed manually or automatically rotated as you draw, quickly producing different coloured object images. Pictures can be saved and reloaded to/from disk, and there's even a screen print facility although I couldn't get this to work on my Star SG-10. Unfortunately this program isn't very intuitive as functions are chosen by key depression - not from a menu.

FUN TRAIN - after lunch Teddy's mum takes him to the fun fair, where he rides on the Fun Train. This pulls a carriage with a picture on its side, and each time it appears it has a different picture. You have to match the picture with another elsewhere on the screen. Level 2 replaces some of the pictures with words, while at Level 3 a picture has to be matched with its corresponding word.

TEDDY'S HOUSE - when Teddy and his mum get home they find the house painters have arrived. They've forgotten which colours to use, so you have to help them. Level 1 asks you to choose a colour for a particular part of the house; Level 2 asks what colour a particular part has already been painted; and Level 3 asks you to paint a given part of the house a particular colour. When complete the painters drive away in their van - sometimes with an unexpectedly amusing result!

TEDDY'S KARAOKE - later on Teddy goes to his friend's birthday party, where he helps operate the Karaoke machine. Select a nursery rhyme and the machine plays it accompanied by flashing disco lights. It also displays the words, complete with little ball bouncing along over them to help you sing along in time! On Level 2 you control the playback of each song by tapping out its rhythm on the Spacebar. At Level 3 the music plays normally, but stops at certain words and waits for you to key in its initial letter.

TEDDY'S BOOKS - it's bedtime, and Teddy has several friends staying with him. His dad is reading bedtime stories from a book taken from Teddy's bookshelf, leaving a gap where it came from. The books on the shelf are numbered, and you have to indicate which one is missing by pressing the appropriate numeric key. Level 2 is similar, except the books aren't in numerical order.

FUN?

JOHN S DAVISON PLAYS AROUND WITH THE FOLKS IN FUN SCHOOL 4

On Levels 3 and 4 there are several books missing and you have to guess which one's currently being read. If wrong, you're prompted to try a bigger or smaller number as appropriate. Each correct answer causes one of the bears to fall asleep, the level ending when all are asleep.

Summary - a delightful collection of programs which can't fail to captivate its intended audience. However, completing certain higher levels might be quite challenging for some young children, although with adequate supervision this shouldn't be too much of a problem.

5 TO 7 YEAR OLDS

This package helps children learn about the alphabet; develop an understanding of alphabetic and numeric sequences; learn about money; try out their arithmetic skills; improve their vocabulary; and develop keyboard skills. Theme character is Freddy Frog (from Fun School 2 and 3) and the story scenario is "Freddy Frog's Busy Week".

LIBRARY - on Monday Freddy goes to the library to change his library book and ends up sorting books into alphabetical order - with your help. Various levels have you sorting books based on the initial letter of their title; on one whole word; on the whole title; and on author's name. Book titles and authors' names can be customised if required. This program exercises a skill that's often ignored, and again can be challenging at higher levels.





BASKETBALL - Tuesday sees Freddy in the Sequences Basketball team. You have to help him score points by deducing the missing item from a sequence of numbers or letters displayed on cards held up by the spectators. A right answer helps Freddy shoot the ball into the basket, while a wrong one causes him to miss the shot and a hint to be displayed. There are four levels of increasing difficulty, and again at higher levels the problems can be quite taxing for younger children.

SHOPKEEPER - on Wednesday Freddy goes shopping at the supermarket, and you have to help him. In Level 1 you have to pick out a coin which will buy a certain item displayed in the window. In Level 2 you may have to select more than one coin to pay for an item. In higher levels Freddy finds himself standing in for the shopkeeper, and needs help working out how much each customer has spent and their correct change. Customers buy up to three items and pay with a handful of coins, so it can be quite difficult to calculate the change required. Change has to be given using the minimum number of coins, although the instructions don't tell you this.

LOG CABIN - on Thursday Freddy's wife drags him off to finish the work on their holiday log cabin. You have to help Freddy fit logs into spaces in the wall to complete it. Each space contains an arithmetic problem, and you have to find the log inscribed with the matching answer. Fill all the spaces and Mrs. Frog (love that lipstick!) and Froggie junior join Freddy in a celebratory dance. Again there are four levels of increasing difficulty, covering addition, subtraction, multiplication and division problems.

OPPOSITES - Friday sees the Frog family visiting a lily pond for a swim. Unfortunately the pond's owner appears and demands Freddy answers questions on "opposites" before his wife is allowed to use the diving board. You have to make Freddy jump onto the lily pad displaying the correct answer using the cursor keys. There are six difficulty levels, the higher ones needing multiple answers so that Freddy's wife AND her friends can go diving. Their antics will have the kids rolling around with laughter!

TYPING - Did you know that the National Curriculum suggests that by the age of seven children should be able to perform elementary computer based tasks including simple word processing?

CONTINUED ☞

This means acquiring keyboard skills along the way, hence the need for programs like this one. Freddy's final task is to avoid being caught by a rather strange looking crocodile - by correctly completing his typing exercises! You have to operate the keyboard for him through five difficulty levels, ranging from exploratory pecks at single letters through to entering complete sentences displayed on the screen. Correct entries keep Freddy well clear of those snapping jaws!

Summary - some problems are quite taxing, e.g. arithmetic requiring the 12 times table, and "opposites" requiring a grasp of quite wide-ranging concepts. Although its target age range is 5-7 years, in practice it's probably broader than this, possibly up to 9 years. It's a sure fire hit with the the kids though!

7 TO 11 YEAR OLDS

Here's another six programs, including topics of maths, geography, history, and general knowledge. Theme character is Agent Q (or Sammy the Spy to his friends), who seems to have replaced Robbie the Robot from the previous Fun School programs for this age group. Story scenario is called "Q's Tricky Mission", which involves Sammy following the trail of a double agent who's stolen the ancient riches of King Raram and some important documents. To make progress he has to answer questions - with your help, of course!

PROPORTIONS - this contains three separate tests on proportions, using various quantities of objects from a total of 10, 20, and 30. Answers may be in fractional, decimal, or percentage terms. Successful completion results in a secret message being revealed.

SPY QUIZ - Sammy has to collect another secret message from a house surrounded by a high wall. To scale the wall he has to answer general knowledge questions on English, maths, and science, some of which are quite difficult even for adults! Each correct answer allows him to climb higher, but a wrong answer causes a guard to drop a plant pot on his head which knocks him back to the bottom again. Sammy has to climb the wall through four levels of increasing difficulty before finally receiving the secret message.

EXCHANGE RATES - the trail leads Sammy abroad, and he needs to buy equipment at the airport before departing. To get it he has to answer questions on currency exchange rates between Pounds, Francs, Deutschemarks, Pesetas, and Lire, and correct answers earn him money for buying equipment. Three levels cover various types of conversions, the higher ones involving comparing prices in different currencies. This is quite difficult, so you're allowed to use an onscreen calculator up to five times to help you. Another secret message is revealed when you've completed all levels.

TIMETABLE - Sammy asks you questions about flight departures, destinations, and arrivals, answered by consulting the airport's flight timetable. There are four levels, the higher of which have you calculating arrival times based on departure time plus flight time, and departure times from scheduled time plus time ahead of or behind schedule. Completing a level triggers an amusing animated sequence showing Sammy boarding his plane and departing.

SPY TRAVELS - my favourite program, in which you help Sammy navigate to secret destinations. Six levels involve steering planes, a boat, hot air balloon, helicopter, and submarine across a world map via various oceans, countries, cities, rivers, and other important places in response to messages flashed to you. None of the places are marked or named on the map, so if you don't know where they are you have to find out by experimenting. Wrong answers result in directional clues which you use to locate the required destination.

DESERT DATES - Sammy has to answer questions about famous historical events, by striking appropriately dated bricks in the magical Pyramids of Historichuck with a large mallet! A wrong answer causes the mallet to break, and you only have five mallets. A correct answer causes the brick to move aside revealing a treasure. Get Sammy through four levels and he'll find the riches of King Raram and finally complete his mission. Four levels require increasingly accurate answers, in centuries, decades, and finally the exact year an event occurred.

Summary - another great collection of programs to challenge young minds - or even adult minds in some topics! My only disappointment is that the secret messages collected along the way aren't actually used for anything, they're there to support the written scenario rather than the action in the programs.

OVERALL CONCLUSIONS

There's much to praise and little to criticise in these packages. Minor niggles include inconsistency in moving between difficulty levels - some programs do it automatically, while others need manual action. Also, the controls for some programs aren't as simple as they could be - Teddy Paint being the worst offender. Instructions for some programs could be clearer too, Teddy Paint again needing attention.

The problems presented in Fun School 4 are noticeably more taxing than in the earlier packages. I suspect this is intentional, probably in response to feedback from teachers and parents asking for something more challenging. It's no bad thing, except less able kids may need additional help and supervision. However, the programs do usually provide excellent prompts, hints, clues, etc., on receiving wrong answers, and most provide the answer after several wrong attempts.

The programs exhibit the same superb quality as their predecessors, so their success is assured. They're easy to use, have excellent graphics and animation, use both internal and sampled sounds effectively (but sparingly!), and cover relevant educational topics. But above all they're ENTERTAINING and great FUN to use, so children will really enjoy using them. If you're shopping for educational software, do your kids a big favour and buy Fun School 4, and don't be surprised if they won't stop using them!

FUN SCHOOL 4

Europress Software

£24.99 each

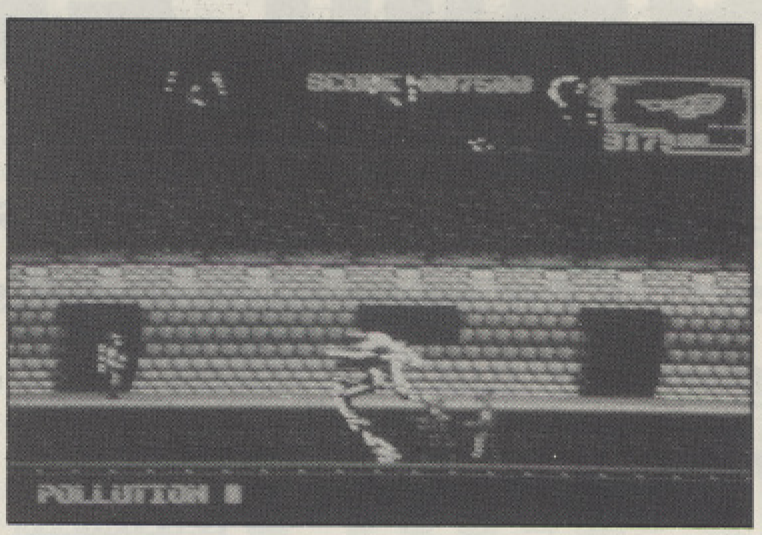
Reviewed by John S Davison

ROBOZONE

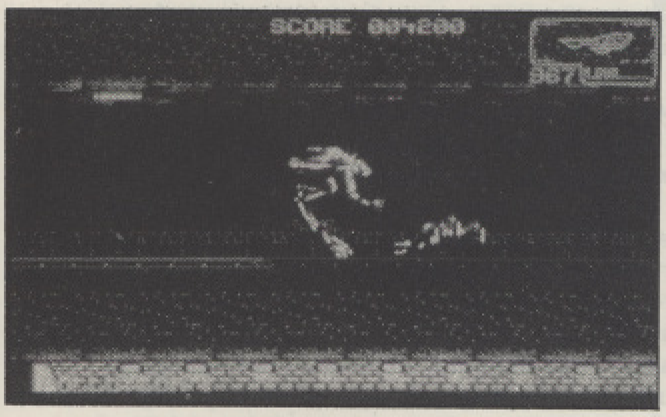
ImageWorks have produced an interesting piece of Science Fiction gaming here. They have taken the starting location as New York in the year 2067 and portrayed yet another dismal version of the Cyberpunk age. Man, it assumes, has managed to live up to all of Greenpeace's dire warnings and has used up all that Mother Nature has to give and polluted Her unto near death. Therefore the government started a meritocratic evacuation which left a great deal of the population scratching about trying to make a living on the planet. In order to maintain control they left behind a core of police keeping robots who they named Wolverines. It was these machine's duty to maintain peace and good order.

Sadly they could not control the violent side of the human without breaking the prime directive, so beloved of Asimov, and thus started the heady road to extinction. Then just as the robots existence seemed to be at an all time low new alien creature robots came to deplete whatever was left of the Earth's resources and so upset the Earth robots that a war ensued. The player's role is that of the last Wolverine, in some state of extreme disrepair trying to save the world.

The game starts with a strong soundtrack rocking the machine and some quite effective graphics showing the machine that is to be controlled. It bears an uncanny resemblance to the rogue police robot from Robo Cop, but leaving such feelings of plagiarism aside I pressed the joystick fire button and entered into the second disk of game. Herein lies a very interesting quirk, the game comes with an Intro disk that depicts the whole of the story, and then requests the single sided disk be inserted for the game. If you have only got a single sided drive however, beware that it may well be that you cannot play this game to the full, if at all! There is a note in the instructions for such people that they will need to exchange a coupon for another disk to allow access to other levels.



The opening level represents the underground of New York both train style and sewer style, and has the robot clonking it's destructive way looking for lost bits of equipment in a large scale platform game. The graphic representation of the area and the various monsters are reminiscent of the better Psygnosis games and lend a great deal to the atmosphere of the product. It seems that it is the aim of the player to leave this pit by killing anyone or anything that crosses its path at the same time equipping itself with some more useful hardware. This level takes a great deal of mastering insofar as the problems to be surmounted are great and only defeatable with the gun the robot carries. Should you fight your way out then the second stage actually makes the game feel even more like a good story.



Once upon the streets of New York the Robot needs to find a communication device to allow it to contact the creator of the machines and thus allow a refit and general 24,000 mile service to take place. The level also allows the robot to obtain more and nastier weapons.

The screen is a rather fetching 3D scrolling skyline of New York and allows for an strong interactive search game. This level almost smacks of the old style arcventures. This to me is the most attractive of the 3 levels, if only because it allows for a little more empathy with the machine and presents a reason for playing the game. Once the professor has been found (not easy at all!) he may well refit all the items needed to enter the third level and so it is with a far more useful machine the player enters into the showdown.

This final part is where hero machine sets out to deliver the unaware human world from the unpleasant polluting Scavengers and their Furnace Guardian. By now the Robot is faster, bigger, and stronger and thus is assumed to cross some of the lesser barriers in his way and embarks on another platform style duck and weave trek. This unit is less effective in some ways than the previous two although it is in essence far more a large shoot 'em up allowing for more reaction shooting and less thinking about your actions. In essence the robot is assailed by many baby version scavengers and is attempting to reach the mother creature and then destroy it with the extremely potent hardware available on its way. Sadly a mere mortal such as I did not manage to penetrate the depths of the Guardian's lair and thus I cannot comment further. My only thought was that if it was tougher than the babies who kept wasting my robot then the Earth was going to die many, many times!!

- ***SIGHT & SOUND*** *- This felt like a good Psygnosis game, garish with loud sounds, worth the effort of loading*
- ***GAMEPLAY*** *- Entertaining but highly frustrating, good scrolling and joystick reaction though*
- ***VERDICT*** *- A reasonable contender in the new ideas field and although I was not totally enthralled it provided some interesting times*

Title:	**ROBOZONE**
Publisher:	**Image Works**
Price:	**£25.99**
Reviewer:	**Damon Howarth**

SAMPLE THIS!

John S Davison concludes his series on sampling sounds using your ST with a final look at stereo reproduction

I finally got my hands on it - Microdeal/AVR's Stereo Replay sampling package, that is. It runs on any ST(E) or TT, so you can at last make samples to fully exploit the STE's stereo sound system. Being stereophonic it has twice the hardware muscle of its monophonic predecessors, and this is reflected in the size of the cartridge - it's now a hefty "L" shaped affair over twice the size of previous Replay cartridges. It's still only 8-bit resolution though.

The cartridge now sports four phono sockets, stereo left/right inputs, and stereo left/right outputs. Inputs take line level signals from your sample source, e.g. line out sockets on a CD player, cassette recorder, or amplifier - or even from their headphone sockets. The cartridge outputs connect to the "aux" inputs of a stereo hi-fi amplifier. Playback can also be via the computer monitor or routed via the stereo output sockets of an STE/TT.

The package also contains two double sided disks, and three instruction booklets presented in the same slightly scruffy style common to all the Replay products. The content is generally OK, although some of the more esoteric topics could do with better explanation, e.g. image panning and resampling. The disks contain two programs and some ready-to-use samples, which surprisingly are mono only so don't fully demonstrate the package's sonic capabilities.

STEREO OƎЯƎTƧ

PRO-SERIES EDITOR

The main program is the sample editor, which is a complete departure from previous Replay editors. It requires a minimum of 512K to run, but really needs more to fully exploit its potential. It won't run in ST(E) or TT low resolution mode, but claims to work with anything higher (including TT modes). I tried it in STE medium-res colour and hi-res mono and it worked fine. Its main functions are very similar to those in Replay-8 and Replay Professional (see Issues 52/53), but in appearance and operation it's totally different. It's based on the editor supplied with AVR's expensive Pro-Series 12-bit and 16-bit sampler packages, which makes much greater use of windows than before.

On bootup you find yourself on a new desktop, i.e. the Replay desktop. This shows some unfamiliar icons, including a disk (for loading samples) and a MIDI keyboard (for setting MIDI parameters). At bottom left is a set of tape recorder-like controls for handling record, playback, fast forward, and rewind of samples. Next to it is the Block Control Panel, more of which anon. There's also a "fuel gauge" showing unused memory.

Click on the disk icon to select and load sample files. At last AVR's standard sample format definition shows its worth, as through it the program can read 8, 12, or 16-bit resolution samples in mono or stereo and automatically convert between the formats as required! This gives you access to a much wider range of samples from PD libraries, etc. as discussed in the last issue. Note that you can only replay them in 8-bit format with this package though. It also reads non .AVR format sample files.

After loading a sample, an icon representing it (including its name) appears on the desktop. The sample's waveform is also immediately displayed in a window, either as a single trace for a mono sample or left and right channel traces for stereo. The window can be resized, repositioned, etc. as required, so you can still access the desktop if needed. You can keep loading samples until your ST's memory is full, each one represented by its desktop icon. Up to seven samples can be viewed simultaneously, each in its own scrollable/zoomable window.

Editing can be done on any section (or "block") of the sample, defined either using "markers" or by "rubber-banding" an area with the mouse. You can also place additional markers anywhere within a sample to indicate points of interest and quickly switch the editing cursor between them when required. Any pair may also be used to define a block for editing. The Block Control Panel then displays icons representing the more frequently used edit operations. These include cut, paste, and copy blocks within a sample window or even between windows - great for making up composite sounds from several different samples!

Less frequently used functions may be accessed from the usual menu bar. You'll find familiar features from previous editors here, some with enhancements for more flexibility. For instance samples can be reversed; superimposed on each other; repeated; faded in/out; and volume manipulation performed. There are also some new facilities specifically for handling stereo samples including swapping channels; channel-to-channel copying; channel cross-fading; and image panning - moving the sound about as it plays!

Looping is important for musical applications, as it allows a relatively short sample to be played for any required duration without using additional memory. You can easily drive yourself crackers (or should that be loopy!) trying to

find good looping points within a sample, as differences in volume, pitch, and timbre at the chosen points can often produce nasty audible glitches in the sustained sound. The editor has some excellent tools to help you avoid this, including a special display to assist you accurately match up the waveform shape across the loop join; a "snap" function to automatically position the loop markers at the waveform's zero volume points (always a good place to start); and finally an automatic cross-fade at the loop join to help hide any remaining nasties. They still don't guarantee you'll make perfect loops, but they do improve the odds!

RECORDING SAMPLES

Selecting "new sample" from the menu now creates a sample file into which you can record a new sample. A dialogue box allows you to specify the resolution; whether mono/stereo; and the sample length. Stereo samples use twice the memory of mono samples, so 512K is barely adequate - only 5 seconds worth of samples at 22kHz sampling rate.

Clicking on the "record" button brings up a recording control panel. This includes an oscilloscope display, used to set the optimum input signal level. It also has buttons for monitoring the input; setting a trigger level to automatically initiate sampling; and a manual sampling start button.

This editor doesn't have a realtime spectrum analyser, so determining frequency content of a signal involves making a test sample first then using the Fast Fourier Transform facility on it. The FFT display is also useful when using the program's many digital filtering options to clean up or otherwise change the sound of the sample. These include low pass, high pass, band pass, and notch filters; bass or treble enhancement; DC bias removal; and a spot frequency booster - acting at any frequency you choose.

As with previous Replay editors the sound can also be changed by applying various reverb, echo, and flanging special effects processing to the basic sound. There's also a new facility for "re-sampling" an existing sample at a different frequency to that originally used.

MIDI support is similar to that in Replay-8, allowing only single notes to be played from a MIDI keyboard. You can assign single samples to individual keys, or play one sample pitch shifted across the whole keyboard, but there's no equivalent of the superb four-note polyphonic MIDIPlay facility supplied with the Replay Professional package.

STEREO DRUMS

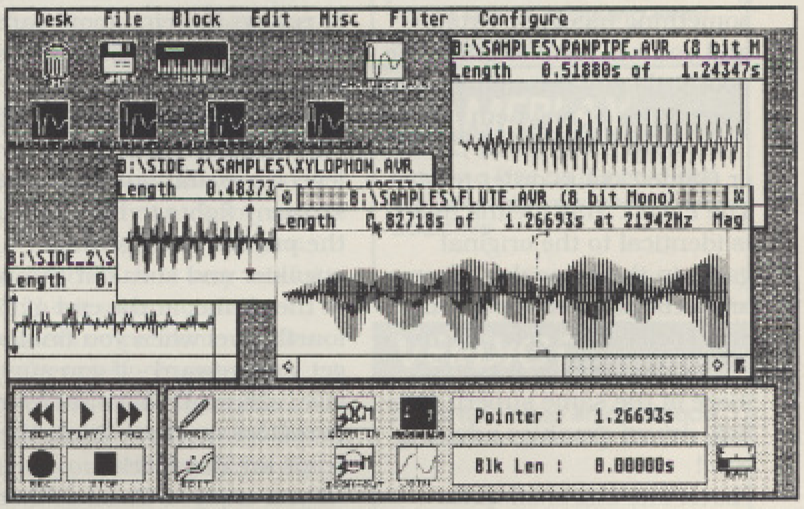
The other major program supplied is Stereo-Beat, a new version of AVR's ubiquitous Drumbeat drum machine program. It's very similar to Drumbeat Professional described last issue, the main difference being that drum sounds can be individually positioned to the left, centre, or right of the stereo soundstage. Central positioning involves replaying the same signal on both channels, restricting the number of different samples playable simultaneously to three.

As well as steptime rhythm pattern entry there's now also a new realtime facility, allowing you to "tap in" a drum part using the ST's numeric keypad while listening to other parts already sequenced.

You can also connect up to six drum pads via MIDI and play the drum samples by hitting the pads. In this mode you can play a maximum of four samples simultaneously. Other MIDI facilities include the ability to transmit or read external MIDI clock messages so Stereo-Beat can drive or sync to an external sequencer or drum machine. It can also transmit MIDI Note On messages, for playing sounds on external expanders or drum machines.

I haven't covered every feature in this package, but I think I've said enough to give you a good idea of its capabilities. To summarise, I think Stereo Replay is a terrific product, representing a real advance in both hardware and software terms over Replay-8. And at £89.95 it costs just £10 more than its predecessor - that's a bargain in my book. Like Replay-8 its sound quality is good but still isn't really hi-fi - a limitation of the 8-bit technology, I guess. However, to my ears it sounds subjectively better than Replay-8, probably because of the spatially separated sounds.

I found few niggles with it - minor quirks in its ergonomics perhaps, but nothing really serious. The major omission is a polyphonic MIDI keyboard facility. Ah well, you can't have everything!



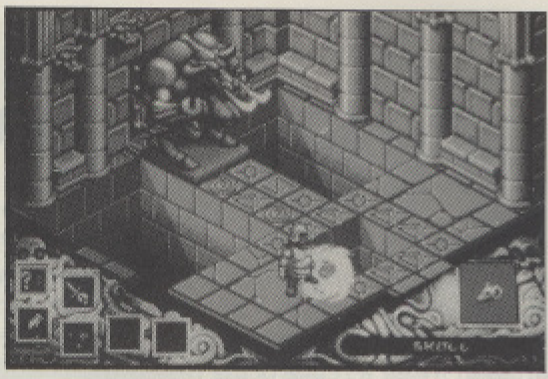
Well that's it, the end of the Sample This! series. We've covered a lot of ground, not only looking at lots of sampling related products for the ST, but also at some of the theory behind how they work and the practicalities of using them. As always, if you have any queries on this topic drop me a line c/o Page 6 and I'll do my best to help.

SAMPLING TIPS

With ANY sampler the quality of sounds produced depends very much on the care taken in recording the samples, as well as the technology used. So, if you want top quality results bear the following in mind:

1. Buy the highest resolution sampler you can afford. For most people this means an 8-bit system, but go higher if you can. More bits means "higher-fi" - less background noise and lower quantisation distortion.
2. Ensure you use a top quality signal source, e.g. hi-fi cassette or CD. Input a rubbishy signal and you'll produce a rubbishy sample.
3. Always set the correct input signal level with the oscilloscope. Too low a level increases background noise and distortion, too high causes clipping distortion.
4. Use the highest practicable sampling rates. Lower rates mean increased distortion and restricted frequency response.
5. Remember the Nyquist limit (see Issue 51) - don't try to record frequencies above about HALF the sampling rate or you'll introduce awful sounding aliasing distortion which no amount of digital filtering will ever fully remove. Use the editor's spectrum analyser or Fast Fourier Transform display to see what frequencies are present. Filter out those over the limit AT SOURCE using your amplifier's tone controls, graphic equaliser, etc. Alternatively, consider recording the sounds onto a multi-speed tape recorder first then sample them from here with the tape running at half speed. This halves the frequencies, bringing them below the Nyquist limit. After recording double the sampler's replay rate to get back to the sample's original pitch.
6. Replay the samples via an external amplifier, with tone controls set for the best sounding results.

CADAVER THE PAYOFF



The long-awaited sequel to one of the best games of 1990 hit the stands a couple of months back. Having fought his way through five levels of fiendish puzzles, monsters and traps to defeat the evil Necromancer, Karadoc the Dwarf now returns to his home village to get his reward. Unfortunately something has gone wrong and you will have to guide the poor little guy through four more levels of mayhem.

You need the original Cadaver Game Disk in order to play The Payoff. This means that it is identical to the original game in the gameplay. There are a couple of new potions and spells and a few new objects but basically it is just more of the same superb joystick-driven graphics adventure!

Level one starts off quite hard, but level two is a real killer - i.e. you tend to die every time you enter a new room as there are so many deadly monsters around!

As before you must pay the gods an increasing amount of money for each SAVE, so you will almost certainly run out of money on level two and have to restart it, being more careful with your SAVEs now that you know how to solve the first part of the level!

It is a great relief to reach level three and not have quite so many fights to handle, but the puzzles start getting sneakier and sneakier through to the climax at the end of the fourth level when you finally get your reward - if you survive: although there are fewer monsters on these levels the traps are deadlier!

If you enjoyed Cadaver then rush out and buy The Payoff immediately. If you haven't played Cadaver yet, then you are missing a treat - I would thoroughly recommend that you get yourself a copy!

There probably won't be any more of Cadaver since the Bitmap Brothers decided to kill Karadoc the Dwarf off in the follow-up to The Payoff. This appeared as a single level called The Last Supper on a Zero magazine cover disk a few months back - you can probably pick it up from one of the PD libraries. Hopefully however the Bitmap Brothers will develop the theme in their usual brilliant manner and provide us with more excellent graphic adventures in the future.

FACTS

Title:	**CADAVER - THE PAYOFF**
Publisher:	**Renegade**
Price:	**£25.99**
Reviewer:	**John Sweeney**

SIGHT & SOUND

Brilliant 3-D isometric graphics and animation, lots of nice sound effects-

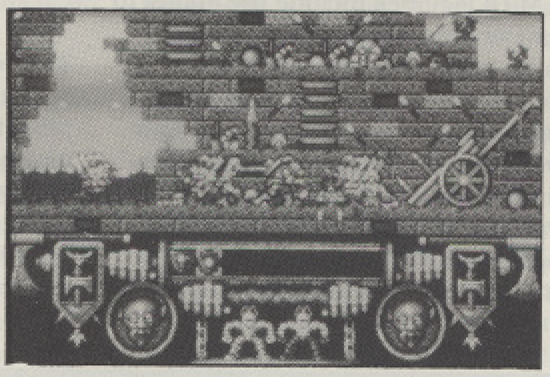
GAMEPLAY

Superb example of a well designed game. Jam-packed with puzzles and traps to keeps you perplexed for many hours-

VERDICT

More Bitmap Magic!

ONSLAUGHT



FACTS

Title:	**ONSLAUGHT**
Publisher:	**Mirror Image**
Price:	**£9.99**
Reviewer:	**Damon Howarth**

SIGHT & SOUND

Good loud sound and FX, very colourful graphics which show well on screen

GAMEPLAY

An entertaining and involved game which is a slightly more than just a shoot'em up, very smooth all round

VERDICT

Good value, very playable and well worth exploring over a period of time

Although now a budget release, I do not recall seeing this particular offering before. A very loud and colourful arcade game with some strategic overtones is presented here. In it the player controls a lone fanatic warrior who is striving to make his way across various screens of enemies in a multitude of different ways.

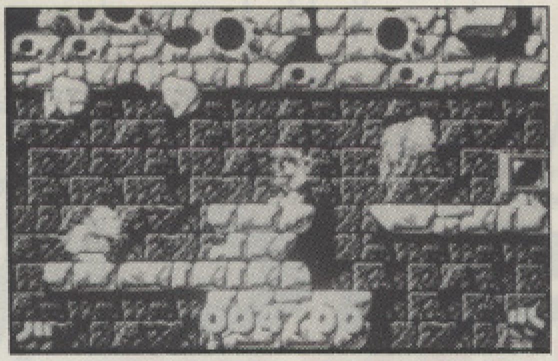
The game is set in the imaginary area of Gargore a place where all the independent kingdoms are warring and looking for a hero to unite them under a common cause. Surprisingly the game comes with a mass of written material which give a deal of background to the world. Indeed on the word support side it rivals many fantasy adventure games.

The graphics are very strong especially in the major platform games which represent the battles. There are a bewildering array of enemies representing the different ethos and races of the enemy each with their own little death machines and large mines. All the same the basis of these battles is a platform and ladders game of great violence. To alleviate the platform combat there is a device entitled mind combat which involves controlling a hand icon around the screen borders and firing the mind bolts at a four armed head in order to fry it's brains. Such are the creatures of imagination! This part of the game although necessary for the play is perhaps the least satisfying both graphically and in play style. In essence it acts as the Large monster at the end of a level but in practice these battles can come more frequently.

In an attempt to appear more fantasy based the game allocates your hero a religion out of the several available and points are awarded or lost for attacking the right and wrong combinations of same. Again all this practically means is avoiding the potential allies and using magic objects upon them rather than senselessly killing everything on the map. The game has a great deal of potential and is saved from being samey by the play area editing feature which does allow for interesting variations on the theme.

I quite enjoyed this although the play could prove a little difficult for newcomers.

MAGIC POCKETS



Magic Pockets is a joystick-driven platform game. As the 'Bitmap Kid' you must fight your way through 25 levels against snails, green blobs, rocky people, etc. You attack with 'Pocketpower' - the longer you hold the button down before releasing it the more powerful it is. It takes four different forms throughout the game. You start in the caves, firing whirlwinds, then it's on to the jungle, where clouds are your weaponry. On the third world, the mountains, you attack with snowballs and on the final level, you throw Ice T-Cubes. There is an amazing variety of useful objects to collect, e.g. magic potions, cups of tea and coffee, bubble gum, boxing gloves, a diver's helmet, and a cool bike which kills everything it hits - shame you can't take it with you! Also if you collect a gold star you will get one of another set of very helpful items.

The levels are enormous mazes with 8-way scrolling; lots of dead-ends and hidden treasures make the game much more interesting than the average platform game.

It is a bit tedious having to restart the whole game again whenever you die, rather than starting at the beginning of the world you were on, and the Bitmap Brothers tell me that there are no cheats built in. Fortunately you have three credits to spend on extra lives so you can get quite a long way on each attempt. If you are really stuck you can ring 0898-445928 for a hint (but it costs!).

You get more powerups from Sweet Things: some are just lying around; you will get some whenever you kill an enemy with full Pocketpower. If you pick up a cocktail be sure to make the next Pocketpower big as you will throw out even more Sweet Things.

There are many places where speed is essential, for instance, if you don't hurry at the beginning of level 2 a rocky person will fall through some blocks onto your head, take a life, then carry on down, steal your bike and try to kill you again with it. It is very useful to find out where certain monsters come from and destroy them before, or just as, they come on to the screen. You should also be careful not to trap yourself anywhere, or you will have to waste a credit to begin the level again.

FACTS

Title:	**MAGIC POCKETS**
Publisher:	**Renegade**
Price:	**£25.99**
Reviewer:	**Alex Sweeney**

SIGHT & SOUND

Excellently detailed graphics, lots of colour and very good animation. Great music and sound effects, including Betty Boo soundtrack

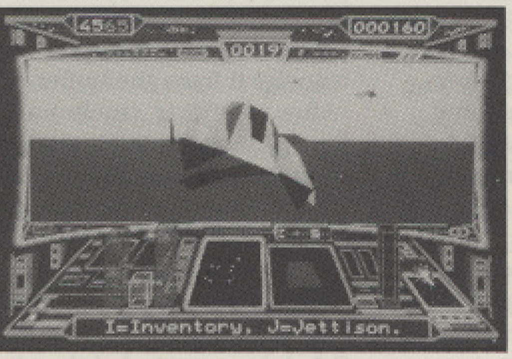
GAMEPLAY

Maybe a little on the hard side but generally very good. Pretty addictive

VERDICT

Great fun. If you enjoy arcade games it is definitely worth a go

STARGLIDER 2



FACTS

Title:	**STARGLIDER 2**
Publisher:	**Mirror Image**
Price:	**£9.99**
Reviewer:	**Damon Howarth**

SIGHT & SOUND

Good 3D animation allows for reasonable sim, the sound is a little weak apart from loading

GAMEPLAY

A very good example of 3D graphic flying combat games, smooth and enjoyable

VERDICT

A blast from the past that is well worth the preservation

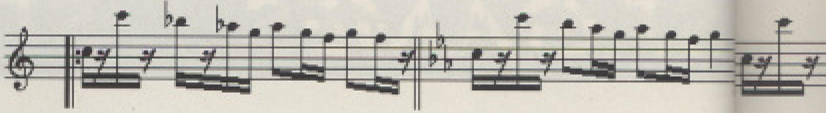
Mirror Image have found some strong contenders in their line up to offer success stories at budget prices. Starglider 2 is no exception and gives strong support to their desires of being recognised as a purveyor of quality antique software. This is the follow up to one of the STs earliest successes which showed the power of the 16 bit over the 8. Unfortunately even in the original incarnation number two never quite managed the accolades of the first, but such is the way of sequels.

The player represents the hero Jaysan who has been persuaded in the accompanying 40 odd page long novella to help his friend Katra in the destruction and eventual repulsion of the Ergon fleet. The Ergon's it seems are somewhat upset with the human race for beating them in the original game and because their status as the universe's greatest threat to the human race is being threatened.

In order to strike fear and submission into the Ergons hearts the couple of heroes are to fly their special ship The Icarus on a seek and destroy mission. This the game accomplishes by being a rather good 3D space flight simulator which bears many of the hallmarks of Elite. The views from the cockpit are comprised of fairly fluid well animated filled 3D block graphics and there are plenty of opportunities to fly through space shooting protection vessels and even chances to bomb planets and defence systems. The control may be by joystick or mouse or, possibly the best method, by keyboard. The actual flight simulation and fighting within this game compares very favourably with that seen in Elite, indeed should the prime attraction of Elite have been for you the combat, this game will prove heaven sent. It doesn't though have the interesting trading sidelines or the special mission capability the other space classic has.

Once the pure combat nature of the game is accepted then controls and graphics blend well for a fast and exciting game. This is well worth it's budget price for space cadets everywhere. I enjoyed this but personally I prefer Elite.

MAKING MUSIC WITH YOUR ATARI!



C-LAB's NOTATOR

John S Davison's regular guide to music on your ST

Who in their right mind would pay £550 for an ST based MIDI sequencer? Answer - a surprisingly large number of people if sales of C-Lab's Notator package are anything to go by! Notator is used by musicians everywhere, and surprisingly even some school music departments now have it. After using Notator V3.1 for a couple of months I now understand why it's so popular.

Notator is an integrated MIDI sequencing and music notation package. As well as providing a terrific range of sequencing facilities you can immediately see, edit, and print what you've played in true music notation. Its editing features are particularly strong, but its score printing features are incredible - it's like a DTP program for music!

Notator incorporates Soft Link, an application manager permitting loading of up to nine programs into the ST's memory simultaneously and switching between them at will - if your ST's got at least 2MB of memory. Without Soft Link a minimum of 1MB is required. Notator also needs a double sided disk drive and a high-res monochrome monitor.

The package is supplied in a 3" thick A5 ringbinder containing not only a huge manual, but also five disks holding programs, fonts, demos and a tutorial; a command summary card; and the all-important security dongle which plugs into the ST's cartridge port, without which Notator won't run. At first sight the manual looks daunting, but it's quite easy to use. It's divided into logical sections by separator tabs, and its index is excellent.

I just can't do justice to Notator in a two page article, so I'll cover the sequencing aspects now and the notation features in the next issue. Even then I'll still only be covering a fraction of Notator's incredible capabilities! Incidentally, if you don't need Notator's score printing facilities you can buy C-Lab's Creator package for "only" £330. It's identical to Notator except for the notation features.

ROLLS-ROYCE SEQUENCING

Notator's sequencer is definitely in the Rolls-Royce class, incorporating useful features just not found anywhere else (except perhaps in Steinberg's Cubase - Notator's arch rival!). Let's start with a brief rundown of its basic facilities, then move on to the more esoteric ones.

It's basically a pattern based 16 track sequencer, allowing separately recorded patterns be be arranged into a complete song. Four such arrangements can be run in parallel, in effect making it a 64 track sequencer. It's also possible to configure this as two parallel sets of 32 tracks. MIDI supports only 16 channels, so if you need a separate channel for each track C-Lab can supply a hardware accessory called "Export" (£132), which expands the output capability to four different sets of 16 MIDI channels. A further two sets are available via the "Unitor" accessory (£390) - giving 96 MIDI channels in all!

All the usual sequencer functions are here. There's normal recording, and merge recording, which adds new data into a previously recorded track. Drop-merge allows you to manually drop into record mode at any point during playback to add new data, while punch-drop is similar but erases existing data. Punch-autodrop automates the process, switching in and out of record mode at preset positions. Cycle mode permits recording while looping round a preset section of a track, either making a fresh recording at each pass or overdubbing up to sixteen layers. Notator records MIDI data in its input buffer even when NOT switched to record mode, so if you play something brilliant while rehearsing it's not lost - you just transfer it from the buffer to a track!

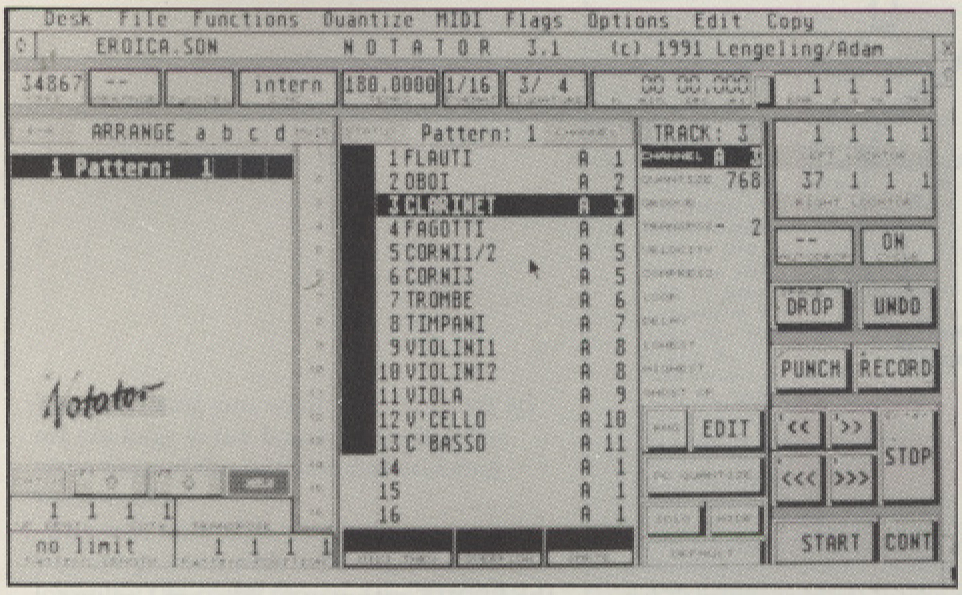
After recording, tracks can be merged, copied, mixed (all 16 tracks merged together), demixed (separated out again - useful when importing standard MIDI files), or single channels extracted from a multichannel track. The usual copy, cut, insert, and delete functions working on predefined sections of them are also available.

Notator has excellent quantising facilities. As usual they can be used to "tighten up" human playing timing deficiencies, but C-Lab have extended the idea via the use of "grooves" - quantisation with deliberately varied timing characteristics. This allows "swing" timings to be imposed instead of a rigid metronomic beat. Several preset grooves are supplied, or you can design your own if required.

REMOTE CONTROL

The sequencer is controlled via onscreen tape recorder style buttons, activated via mouse or ST keyboard. There's also a "key remote" facility which turns 11 keys of your synth keyboard into remote sequencer controls - you can record, play, wind/rewind, switch tracks, etc., without touching the ST!

Positioning within patterns and arrangements is normally handled in bar/beat/subdivision/tick format, where a tick normally equates to a 1/768th note in this case. Alternatively it can use the hrs/mins/secs/msecs format, or SMPTE timecode format preferred by professionals if you also have C-Lab's Unitor hardware accessory. This allows the sequencer to accurately synchronise with an external multitrack tape recorder,



which has one of its tracks striped with timecode. Unitor also provides sockets for yet more C-Lab accessories, namely "Human Touch" (£170.50) which allows the sequencer's tempo to be controlled by incoming audio signals, and "Steady Eye" (£456.50) used for synchronising it with video equipment. That's flexibility - no wonder the professionals love it!

Patterns may be arranged into a song using a text list, or via the "graphical arrange mode" new to this version of Notator. The latter uses a graphical representation of the chains of patterns, which can be easily edited using the mouse. It's even got an "audio scrub" feature allowing you to play small sections of a pattern forwards and backwards to help find minor problems in the music.

Notator can also directly control a specially equipped Fostex multitrack tape recorder via Unitor. The sequencer controls are linked to the tape transport controls via MIDI. Clicking on Notator's Play button starts the sequencer AND the tape recorder, and the two then run in perfect synchronisation. Position the sequencer to somewhere in the middle of a song and the tape will automatically fast wind to the exactly corresponding position. You can record vocals and other acoustic sounds on tape then treat them just as if they were another sequencer track!

You can apply various parameters to a sequencer track to change it's characteristics at playback time only, so the MIDI data isn't permanently altered. For instance you can transpose note pitch; alter note velocity or compress its range; loop the track independently of the others; and set note range limits - all in real time. Alterations can be made actually during playback, so it's very easy to set the effect you're after - just use your ears as you twiddle the parameter settings! In fact, virtually all Notator's operations can be performed while playback continues uninterrupted, even things like formatting disks and editing.

HYPEREDIT

Notator has a superb range of editing methods including event list; score; matrix; and "hyperedit". The event list editor is the heart of the system, as it can display and edit every piece of MIDI data present on a track. It also handles the special (non-transmittable) "pseudo-events" inserted by Notator for internal control purposes, for instance changing tempo; muting tracks; loading the next song while the current one is playing; or showing the position of various score symbols in the score display.

You can also use graphical editing methods along with the event list, the first being a matrix editor. This shows notes in the form of beams in a matrix, with pitch displayed across the horizontal axis and note start time and duration by the vertical position and length of the beam. It looks a bit like an old pianola roll, especially as there's a piano keyboard drawn at the foot of the matrix to help you assess a note's pitch. Notes are edited simply by stretching, shrinking, or dragging the beams around the matrix with the mouse. You can easily alter a note's velocity too. All changes made here are immediately reflected in the event list data, which can be simultaneously displayed in a separate window.

Personally, I don't like matrix editors. I'd much rather use a score editor, and Notator's is a real corker. It's much, much more than just another means of editing note data though, which is why I'll be dedicating a whole article to it in the next issue.

The final editing method is Hyperedit. This allows you to easily isolate and edit all events of one particular type within a track. For instance, you could pick out and display all the snare drum hits in a combined drum track. A matrix approach is used again, with time along the horizontal axis showing where the events occur and the vertical axis used for an associated event characteristic, for example note velocity. You can then add/delete/change notes as required, and do clever things like "draw" a gradual change in velocity or volume across a range of events - useful for creating crescendo effects. Each line on the display shows one instrument and you can group up to sixteen instruments together in sixteen scrollable lines. This makes hyperedit a useful drum rhythm editor as each line could show a different drum type, but its use extends far beyond this. You really have to use it to appreciate its full potential.

Another interesting feature is the "Realtime MIDI Generator". This gives you sixteen mouse operated "fader" controls which can be set to generate any type of MIDI data and record it onto any sequencer track and MIDI channel. They're particularly useful for generating continuous chains of events needed to smoothly change volume or sound characteristics. For example, you can increase the volume of particular instruments as they take solos and reduce it again afterwards. This can be added AFTER you've recorded the instruments themselves - it's like having an automated studio mixing desk!

REALTIME TRANSFORMS

Notator will also "transform" MIDI data, working either on data already recorded or in realtime as the data comes in through the MIDI port. User definable algorithms are used to select which data to change and how to change it. For example, you could reduce the effect of a modulation wheel; remap drum notes for use with a different drum machine; or delete all notes within a given note range. Comprehensive input and output filtering to remove unwanted types of MIDI data is also available, and with Unitor installed it can also handle realtime merging of up to three simultaneous MIDI inputs. The processed input can even be routed back out via MIDI THRU to other MIDI devices if required.

Despite its complexity Notator's sequencer is surprisingly friendly to use. It's solidly reliable too, and hasn't crashed once despite my fumbling experiments with it. Reasons for its popularity are now obvious - ease of use, superb facilities, flexibility, reliability, and the thoroughly professional look and feel that pervades all aspects of it. And that's only the sequencer - wait until you hear what the notation part of it can do! Join me next issue to find out.

THE STOS COLUMN

Dion Guy brings you two super type-in listings plus reviews of two art packages written in STOS only available by Mail Order from the authors

Hello again! Prepare yourself for another fantabulous STOS column, packed full of reviews, listings and generally interesting stuff! Last issue I said that if anyone wants a STOS related product reviewing then get in touch. Little did I know that I would be bombarded by millions of STOS written art packages! Well, maybe that's a teensy exaggeration but recently I have received two different art programs! In depth reviews of both packages will follow shortly, but first - the news!

As mentioned last issue, Fun School 4 is now out. I haven't actually seen the full package but I have seen a small section of the 7-11 year olds version. Without going into too much detail, I found that the package is very well put together. The graphics are of a very high standard, and the educational games have been well thought out. I would recommend any parent to invest in a copy of Fun School 4, if not for the children then for the demonstration of just what STOS is capable of!

THE LISTINGS

So, what programs have we got lined up for you this issue? Firstly, there is the colour definer accessory that was supposed to go in the last issue but was squeezed out due to space problems. Secondly, there's another handy program from Bruno Azzara - a sprite finder. Here are some brief instructions :

PROGRAM 1 SPRITE FINDER

Have you ever loaded in a sprite bank and wanted to find a sprite quickly and easily? Have you ever forgotten which sprite number goes with a certain sprite, and had to manually search for it using the SPRITE command? Why am I asking all these questions? No seriously, we've all experienced the hassle of looking for a sprite at sometime during our programming lives. This program is the perfect solution. After typing it in (and saving it for future use), load in a sprite bank and then run the sprite finder. From here, you simply use the mouse to find which sprite is at each sprite number.

PROGRAM 2 COLOUR DEFINER ACCESSORY

With this accessory you can experiment with the various colours available from your ST. It is pointless going into reams of text explaining how to use the program, as everything is fairly straightforward. Have fun!

REVIEWS

And now - the reviews! The two art packages up for review are GBPaint by Bruno Azzara of GBP Software and The Artful Doodler by Daniel Spooner of DMC Software.

THE ARTFUL DOODLER

Upon loading TAD (as it shall be referred to from now on!) you are greeted with a copy protection screen. I must confess I found this a bit strange for a home-grown art package. Copy protection would be understandable on something like Deluxe Paint, but I cannot help but feel that pirates wouldn't be too interested in any kind of home-grown software.

```
10 rem ***************************
20 rem *                         *
30 rem *** Sprite Finder V1.4 ***
40 rem ***  By Bruno Azzara.   ***
50 rem ***   Stos Accessory    ***
60 rem ***      GBP 1991       ***
70 rem *                         *
80 rem ***************************
90 key off : curs off
100 on mode+1 goto 110,120
110 MXCOL=15 : XPS=9 : XPS2=17 : XNS=27 : XNS2=31 : PG=21 : goto 130
120 MXCOL=3 : XPS=26 : XPS2=34 : XNS=50 : XNS2=54 : PG=41
130 B=current : if accnb=0 then D=length(1) else D=length(B,1)
140 if D=0 then default : pen 2 : locate 0,10 centre "No Sprites in bank 1." :
print : pen 1 : end
150 if accnb=0 then BANKMAX=length(1) : goto 180 else BANKMAX=length(B,1)
160 gosub 570
170 copy start(B,1),start(B,1)+length(B,1) to start(1) : reserve as work 2,1 :
erase 2
180 X=hunt(start(1) to start(1)+length(1),"PALT")+4
190 for A=0 to MXCOL : colour A,deek(X+A*2) : next A
200 ADBANK=start(1)+4 : CURBANK=ADBANK+leek(ADBANK+mode*4)
210 NBSPR=deek(ADBANK+12+mode*2) : if NBSPR=0 then default : pen 2 : locate 0,10
centre "No Sprites for this resolution." : print : pen 1 : end
220 NS=PAGE*16 : S=0 : AR=0 : set line $FFFF,1,0,0
230 hide : logic=back : cls back : for R=1 to 16 : gosub 520 : next R :
logic=physic : screen copy back to logic : show
240 locate 0,0 : centre "Bruno's Sprite Finder." : TM=mode+1
250 locate 9*TM,22 : centre "Previous :"+space$(6*TM)+": Next" : locate
(PG+(PAGE>99)),22 : print "P"+str$(PAGE+1)-" "
260 set zone 18,xgraphic(XPS),ygraphic(22) to
xgraphic(XPS2),ygraphic(22)+16/divy
270 set zone 19,xgraphic(XNS),ygraphic(22) to
xgraphic(XNS2),ygraphic(22)+16/divy
280 locate 12*TM,23 : centre "Sprite number="+"  "
290 for R=1 to 16
300 I=(R-1) mod 4 : J=(R-1)/4 : XX=xgraphic(3)+(4*16+1)*I+1 :
YY=ygraphic(1)+41*J+1
310 set zone R,XX*TM,YY to (XX+4*16-1)*TM,YY+39
320 inc S : if NS+S>NBSPR then goto 400
330 N=NS+S : A=CURBANK+(N-1)*8
340 X=XX+4*16/2-peek(A+4)*16/2
350 Y=YY+40/2-peek(A+5)/2
360 AD=CURBANK+(N-1)*8 : DX=peek(AD+6) : DY=peek(AD+7)
370 sprite 1,(X+DX)*TM,Y+DY,N : wait vbl : put sprite 1 : update : wait vbl :
sprite off 1
380 next R
390 locate (PG+(PAGE>99)),22 : print "P"+str$(PAGE+1)-" "
400 INV=false : INV2=false : repeat : R=zone(0) : K=mouse key
410 if R<=16 and R and NS+R<=NBSPR then locate 12*TM,23 : centre "Sprite
number="+str$(PAGE*16+R)-" " : print " " : wait vbl
420 if R<=16 and R and NS+R<=NBSPR then QQ=0 : for Q=0 to 16 step 4 : X=0 : bset
Q,QQ : bset Q+1,QQ : bset Q+2,QQ : bset Q+3,QQ : set line QQ,1,0,0 : gosub 520 :
next Q
430 if R=18 and not(INV) then INV=true : locate XPS,22 : inverse on : print
"Previous" : inverse off
440 if INV and R<>18 then INV=false : locate XPS,22 : print "Previous"
450 if R=19 and not(INV2) then INV2=true : locate XNS,22 : inverse on : print
"Next" : inverse off
460 if INV2 and R<>19 then INV2=false : locate XNS,22 : print "Next"
470 AR=R : until K
480 if K=2 then default : end
490 if R=18 then if PAGE>0 then dec PAGE : goto 220 else bell : goto 400
500 if R=19 then if NS+S<NBSPR then inc PAGE : goto 220 else bell : goto 400
510 goto 400
520 I=(R-1) mod 4 : J=(R-1)/4
530 XX=xgraphic(3)+(4*16+1)*I+1
540 YY=ygraphic(1)+41*J+1
550 box (XX-1)*(mode+1),YY-1 to (XX+4*16)*(mode+1),YY+40
560 return
570 erase 1 : reserve as data 1,BANKMAX : fill start(1) to start(1)+length(1),0
580 loke start(1),$19861987
590 loke start(1)+4,18 : loke start(1)+8,18 : loke start(1)+12,18 : return
```

Program 1 - Sprite Finder

The last thing you want when loading an art package is the hassle of finding the right page of the manual and entering some codes.

Anyway, after this minor inconvenience you are greeted with a title screen, followed by the main screen. One thing you immediately notice is the wealth of options. All the usual bog-standard stuff is here - such as draw, line, circle, ellipse, box and fill. Other fairly normal features include rays, polygon, eraser, text, spray, brush, and an undo feature.

TAD also has a block facility, and includes a number of options to manipulate blocks. You can also flip sections of screen, either vertically or horizontally. There is a zoom option to allow fine editing, although I found this quite awkward to use because the zoom cursor only moves about on 16 pixel coordinates. There are enlarge and reduce functions, to either enlarge a section of screen or reduce a whole screen into a smaller area. As usual with art packages, each has it's own 'special' features. This one has quite a few - Triangle, Parallelogram, Circle Segments, 512 Colour Facility and Smear are the main unusual features.

Triangle, Parallelogram and Circle Segments are all pretty self-explanatory and are handy options. The 512 Colour Facility allows you to have up to 512 colours on screen at once, instead of the normal 16. This seems to be well implemented and is quite easy to use (surprisingly). One point - TAD allows STE owners to access the extra colours! I think the Smear function, however, is a total waste of time. Rather than smearing or smoothing the edges of objects, it just makes them look a total mess! There are quite a lot of other minor things that have been built into TAD, some of them quite useful.

As TAD is so big, it cannot be loaded into STOS as an accessory - it only runs as a PRG file. This is a major minus for STOS users. Thankfully, TAD can load and save in a number of STOS file formats, MBK etc. Another annoyance is that you can only have one workscreen! Even on a 1 meg machine you are still limited to that one basic screen. I often make use of multiple workscreens, so found this to be a serious flaw.

One good thing about TAD is that you get a well written 40 page manual with it. Another good feature is the inclusion of 'keyboard shortcuts' to enable you to quickly access different functions while still on the workscreen.

Overall, I think that this is a very good art package (especially for the price) which makes up for some of it's faults by having some very good options (such as the 512 colour feature). TAD is available at a cost of £9.99 (inc. P.&P) from Daniel Spooner at DMC Software, 6 Orchard Close, North Baddesley, Southampton, Hampshire, SO52 9GF

GBPAINT

Seeing as I have waffled on about TAD a bit, I will make this review a little briefer. Let me get straight to the point - GBPaint is an excellent art package. There is very little that I can fault GBPaint on - and believe me, I tried to find something! GBPaint is polished and easy to use, yet is very powerful. Here is a run down of some of it's more unusual features :

Block functions - GBPaint can manipulate blocks with ease. Multiple work-

screens - on a half meg you can have 2 workscreens and on a 1 meg you can have 10 screens! Grid - this is an excellent feature for STOS users, you can create grids (of variable sizes) for your games etc. with incredible ease! Text - you can load in your own fonts to use (3 are supplied with the package!). Disk - GBPaint can load and save in 8 different file formats!

There are other normal features that have been well implemented - colour cycling, zoom etc. The zoom cursor moves on 16 pixel coordinates the same as TAD does, but only on the X coordinate - this makes it much easier to use. GBPaint has a lot of other functions, but it's big plus is that you can use it from STOS - which is very handy.

Overall I prefer GBPaint to TAD, but having said that I like them both for different reasons. There's no disputing that they are both very well written art packages and show what you can get from STOS with a lot of time and effort (and enormous programming talent!). I certainly prefer both packages to any other STOS written packages I have seen.

GBPaint does come with a manual which is nearing completion as I write. I haven't actually seen it because I wanted to review GBPaint in this column, and not two months later. By the time you read this though, the manual will have been long finished. GBPaint is available at a cost of £12.50 from Bruno Azzara at GBP Software, 20 Heys Road, Ashton-u-lyne, Lancashire, OL6 6NZ

Please make cheques/PO's payable to "Daniel Spooner" for TAD and "Bruno Azzara" for GBPaint. Both TAD and GBPaint are STE compatible.

FAREWELL

Well, that's it for another column. Remember, I'm always happy to receive STOS related products for review (but no more art packages please!) or programs to publish. If you want a reply, please include an S.A.E. I can be contacted at the following address. So, until next time - bye all!

DION GUY
STOS COLUMN
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Listing 2 - Colour Definer Accessory

```
10 rem ** SCREEN + VARIABLE SETUP **
20 on error goto 820
30 cls : key off : curs off : hide on : click off : colour 2,$70
40 if DONE=0 then dim UNDO$(15) : for A=0 to 15 : UNDO$(A)=hex$(colour(A)) :
next A : DONE=1
50 restore 800 : for B=1 to 10 step 3 : read A$ : read B$ : locate 34,B : print
A$ : locate 34,B+1 : print B$ : next B
60 C=120 : for A=5 to 77 step 24 : box 262,A to 313,A+20 : set zone C,262,A to
313,A+20 : inc C : next A
70 scroll off : auto back off
80 locate 1,24 : print "R  G  B"
90 C=8 : for A=0 to 48 step 24
100 for B=0 to 168 step 24
110 box A,B to A+20,B+20
120 set zone C,A,B to A+20,B+20 : dec C : if C=0 then C=16 else if C=8 then
C=24
130 next B : next A
140 A$=hex$(colour(G))
150 D=0 : for A=8 to 178 step 24 : ink 1 : box 148-4,A-4 to 172+4,A+12 : ink D :
set zone 100+D,148-4,A-4 to 172+4,A+12 : bar 148,A to 172,A+8 : inc D : next A
160 for A=8 to 178 step 24 : ink 1 : box 188-4,A-4 to 212+4,A+12 : ink D : set
zone 100+D,188-4,A-4 to 212+4,A+12 : bar 188,A to 212,A+8 : inc D : next A
170 ink 1 : draw 112,0 to 112,199
180 draw 248,0 to 248,199
190 if DD=0 then A$="$" : A$=A$+str$(POS1) : A$=A$+str$(POS2) : A$=A$+str$(POS3)
: A$=A$-" "
200 DD=0 : colour G,val(A$)
210 ink 0 : bar 16*8,0 to 17*8,199 : bar 28*8,0 to 29*8,199
220 if G<8 then locate 16,G*3+1 : print "*"
230 if G>7 then locate 28,((G-8)*3)+1 : print "*"
240 POS1=val(mid$(A$,2,1)) : POS2=val(mid$(A$,3,1)) : POS3=val(mid$(A$,4,1))
250 RGB$=str$(POS1)+str$(POS2)+str$(POS3) : RGB$=RGB$-" " : W$=str$(G)+" =
$"+RGB$ : if len(W$)=10 then W=17 else W=18
260 locate W,24 : print W$;" "
270 ink 1 : bar 2,188-POS1*24-18 to 18,188-POS1*24-2
280 bar 26,188-POS2*24-2 to 42,188-POS2*24-18
290 bar 50,188-POS3*24-2 to 66,188-POS3*24-18
300 OPOS1=POS1 : OPOS2=POS2 : OPOS3=POS3
310 if SET=0 then screen copy physic to back : auto back on : show on : SET=1
320 if SET=1 then E=7 : for A=0 to 21 step 3 : locate 10,A+1 : print E : dec E :
next A : SET=2
330 rem ** MAIN LOOP **
340 repeat : X=zone(0) : Y=mouse key : K$=inkey$ : SC=scancode
350 if SC=97 then cls : hide on : for R=0 to 15 : colour R,val(UNDO$(R)) : next
R : SET=0 : DD=1 : colour 2,$70 : goto 50
360 K$="" : clear key : until Y<>0 and X<>0
370 if X>99 and X<120 then goto 460
380 if X=122 then gosub 500 : SET=0 : goto 30
390 if X=120 then goto 630
400 if X=121 then goto 720
410 if X=123 then default : end
420 ink 0 : if X<9 then bar 2,188-OPOS1*24-2 to 18,188-OPOS1*24-18 : POS1=X-1
430 if X>8 and X<17 then bar 26,188-OPOS2*24-2 to 42,188-OPOS2*24-18 : POS2=X-9
440 if X>16 and X<25 then bar 50,188-OPOS3*24-2 to 66,188-OPOS3*24-18 :
POS3=X-17
450 goto 190
460 X=X-100 : G=X : ink 0 : A$=hex$(colour(G))
470 bar 2,188-OPOS1*24-2 to 18,188-OPOS1*24-18
480 bar 26,188-OPOS2*24-2 to 42,188-OPOS2*24-18
490 bar 50,188-OPOS3*24-2 to 66,188-OPOS3*24-18 : goto 200
500 rem ** GRAB SCREEN/SPRITE PALETTE **
510 cls : home : pen 1 : C=0
520 locate 0,9 : centre "GRAB SPRITE PALETTE" : locate 0,11 : centre "GET
PICTURE PALETTE" : locate 0,13 : centre "RETURN TO MAIN MENU" : for A=9 to 13
step 2 : box 78,A*8-2 to 234,A*8+10 : set zone 120+C,78,A*8-2 to 234,A*8+10 :
inc C : next A
530 D$="" : repeat : X=zone(0) : until X<>0 and mouse key=1
540 if X=120 then D$="*.MBK" : A$="Grab sprite palette"
550 if X=121 then D$="*.*" : A$="Get pic palette (PI1,NEO or MBK)"
560 if X=122 then return
570 if D$<>"" then goto 590
580 goto 530
590 cls : F$=file select$(D$,A$,4) : if F$="" then return
600 CK$=right$(F$,3) : if CK$<>"MBK" and CK$<>"NEO" and CK$<>"PI1" then return
610 if K$="S" then goto 620 else erase 5 : reserve as screen 5 : load F$,5 : get
palette (5) : erase 5 : DD=1 : return
620 load F$ : X=hunt(start(1) to start(1)+length(1),"PALT")+4 : for A=0 to 15 :
colour A,deek(X+A*2) : next A : erase 1 : DD=1 : return
630 rem ** SAVE PALETTE AS ASCII **
640 cls : L$="" : H$="10 palette "
650 for A=0 to 15 : if A>0 then G$=","
660 G$=G$+hex$(colour(A)) : L$=L$+G$ : next A : H$=H$+L$
670 F$=file select$("*.ASC","Save a palette in ASCII format",4)
680 if F$="" then SET=0 : goto 30
690 if upper$(right$(F$,3))<>"ASC" then goto 670
700 open out #1,F$ : print #1,H$ : close #1
710 SET=0 : DD=1 : goto 30
720 rem ** LOAD ASCII PALETTE FILE **
730 cls : F$=file select$("*.ASC","Load a palette in ASCII format",4)
740 if F$="" then SET=0 : goto 30
750 if upper$(right$(F$,4))<>".ASC" then goto 730
760 open in #1,F$ : for A=0 to 15 : input #1,A$
770 if A=0 then A$=A$-"10 palette"
780 colour A,val(A$) : next A : close #1
790 SET=0 : DD=1 : goto 30
800 data "SAVE","PALT","LOAD","PALT","GRAB","PALT","QUIT","PROG"
810 rem ** ERROR TRAPPING ROUTINE **
820 SET=0 : DD=1 : cls : hide on : locate 0,11 : centre "Error"+str$(errn)+" has
occured in line"+str$(errl)
830 locate 0,13 : centre "Press any key to resume"
840 clear key : wait key : resume 30
```

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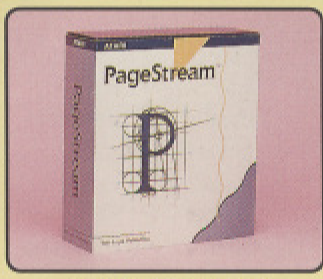
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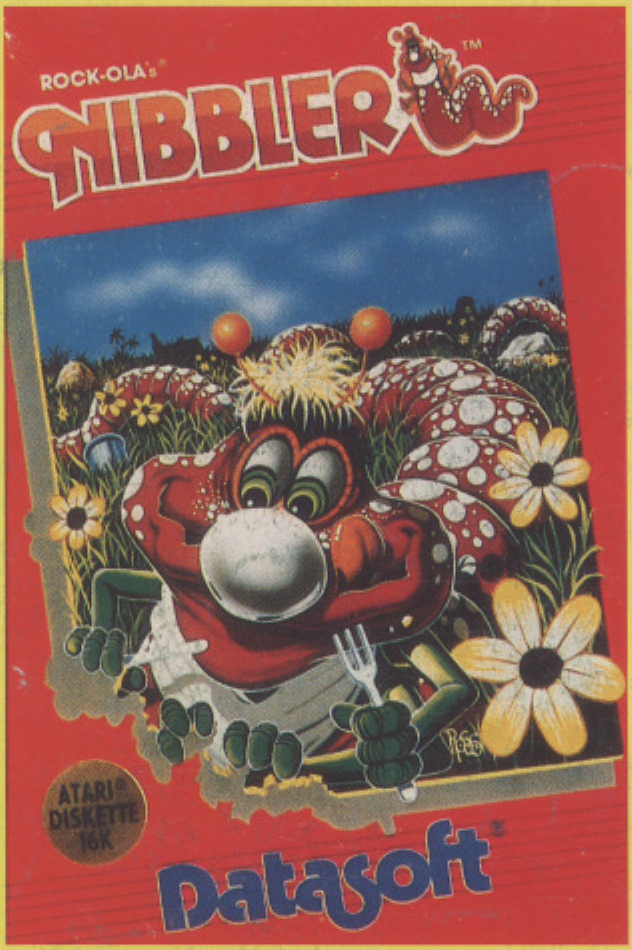
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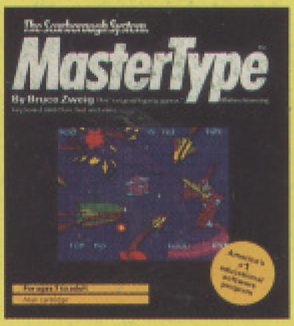


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